

**DEMAND FOR HEALTH CARE SERVICE UTILIZATION IN
ENUGU METROPOLIS OF ENUGU STATE**

M.Sc Thesis

BY

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FACULTY OF SOCIAL SCIENCES,
UNIVERSITY OF NIGERIA, NSUKKA**

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TITLE PAGE

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APPROVAL PAGE

This M.Sc thesis report has been approved by the Department of Economics, Faculty of Social Sciences, University of Nigeria, Nsukka for the award of Master of Science (M.Sc) Degree in Economics.

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CERTIFICATION

This is to certify that the work embodied in this thesis is original and has not been submitted in part or full for any other degree of this university or any other university.

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DEDICATION

To the Almighty God whose mercy sustained me and to my family with unfailing love

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LIST OF ACRONYMS

AIDS:	Acquired Immune Deficiency Syndrome
ARI:	Acute Respiratory Infections
CD:	Communicable Diseases
CHEWs:	Community Health Extension Workers
CNSD:	Central Nervous System Disorders
CVD:	Cardiovascular Disorders
DHS:	District Health System
EHO:	Environmental Health Officers
END:	Endocrinal Disorders
ESUTH:	Enugu State University Teaching Hospital
FCT:	Federal Capital Territory, Abuja
FIML:	Full Information Maximum Likelihood
GDP:	Gross Domestic Product
GIS:	Geographic Information System
GRA:	Government Reserve Area
HIV:	Human Immunodeficiency Virus
ID:	Infectious Diseases
IID:	Independently Identically Distributed
LGA:	Local Government Area
MEI:	Marginal Efficiency of Investment
MLR:	Multiple Linear Regression
MMR:	Maternal Mortality Rate
MNL:	Multinomial Logit
MNLM:	Multivariate Nested Logit Model
NCD:	Non-Communicable diseases
ND:	Neurological Disorders
NHIS:	National Health Insurance Scheme
NMNL:	Nested Multinomial Logit
NPC:	National Population Commission
PHCs:	Primary Health Centres

PHE:	Public Expenditure on Health
PMVs:	Patent Medicine Vendors
THE:	Total Health Expenditure
TSLs:	Two Stage Least Square
UNICEF:	United Nations International Children's Emergency Fund
UNTH:	University of Nigeria Teaching Hospital
VPD:	Vaccine Preventable Diseases
WHO:	World Health Organization

ABSTRACT

Healthcare service utilization has to do with the capacity to make use of existing healthcare services provided in a given area. As the most populous country in Africa, Nigeria is classified as lower middle income economy with poor health indices which left its residents with average life expectancy of 55.2 years in 2018. The poor health indicators could be associated with under-provision of healthcare services or under-utilization of healthcare services or both. This multiple association ignited interest of this study to investigate the demand for healthcare service utilization in Enugu metropolis of Enugu State, Nigeria. The study was guided by two objectives which include; to ascertain the factors that influence demand for healthcare services of households living in Enugu metropolis of Enugu state, Nigeria, and to ascertain the level of utilization of healthcare facilities amongst households living in Enugu metropolis of Enugu state, Nigeria. To achieve stated objectives, an ethical clearance was obtained from Enugu State Ministry of Health which permitted the researcher to collect information from 432 household in three Local Government Councils that made up Enugu metropolis, vis-à-vis Enugu East, North and South using structured questionnaire. The data was subjected to both descriptive statistics and multinomial logistic regression analysis using SATA 13 econometric software. The results show that marital status, level of education, transportation cost, service charge and waiting time played significant role in the choice of healthcare providers. The study however found that influence of employment status, income level, distance from health facilities, household size, quality of care, level of trust and health condition were not significant in determination of choice of healthcare providers. Furthermore, the result reveals that while 45.37%, 30.32% and 13.19% of households utilize private hospital, government hospital and traditional healthcare respectively, 11.11% households have no healthcare provider. The study therefore concludes that while some factors significantly influenced the choice of healthcare providers in Enugu metropolis, existing health facilities in the city are being under-utilized by households. Hence, it was recommended among others that government should educate households on the need to seek healthcare service from professionals so as to minimize the risk of self-medication. Similarly, more investment should be encourage in the health sector and ensure provision of quality healthcare delivery in the society.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

A renewal focus on demand – side strategies to increase utilization of health care services has been a recent feature of health systems development, especially in developing countries (Grundy Annear, 2010). Health is a fundamental dimension of well-being and a key component of human capital (Olarenwaju & Odubunmu, 2012). Health is an important component of human capital in the sense that investment in health has important direct effects on productivity and thus economic growth (Adeoti & Awoniyi, 2014). Improved health status is therefore expected to lead to improved welfare as well as economic growth. It is understood that there are many factors that affects individual (s) to demand for these healthcare services. These factors pertain to individual, social and environmental, economic and demographic in context. Also, accessibility to this health services is made up of several components that includes availability, acceptability, affordability, quality and appropriateness (Adeoti & Awoniyi, 2014). The maintenance of good health and easy access to adequate healthcare has been a challenge to mankind (Ejiagha, Ojiako, & Eze, 2012).

The World Health Organization (WHO) report of 2013 estimated Nigeria’s population to be about 173, 615, 000 million people which makes it the most populous country in the sub-Saharan Africa. There are so many diseases that are threatening the survival of people in Nigeria. As an instance among the children and mother, Olanrewaju and Odubunmi (2012) said that they are threatened by nutritional deficiencies, illnesses, particularly malaria, diarrhea diseases, acute respiratory infections (ARI), maternal mortality and vaccine preventable diseases (VPD). As earlier said of the population of Nigeria consists of the population of Enugu state which is about 3,267,837 as recorded by the 2006 population census (National Population Commission (NPC), 2006). Out of the total population of Enugu state is the population of the Enugu metropolis which is about 722,664 (NPC, 2006). Enugu North, Enugu South and Enugu East Local Government Areas makes up the metropolitan Enugu city. For this reason of huge

number of human population in Enugu metropolis requires that accessibility of health care services be placed as important in the state agenda.

The demand for healthcare services has increased over the years in Enugu urban area due to the growing population of the city (Ejiagha, Ojiako, & Eze, 2012). Yet these factors influencing the demand for health care service utilization have not received much attention among researchers in Enugu State (Ezenwaji, Ijioma, Enete & Ahiadu, 2014). As a matter of fact healthcare delivery system in Enugu urban is very important. It is the capital of Enugu state as well as the capital of South – East region of Nigeria, hosting several of governments and private sector offices coupled with some international and United Nations offices. Therefore at this juncture, this paper tries to study the factors that influence the people’s demand for health care services in the urban area as well as the level of utilization from using the various medical facilities.

1.2 Statement of the Problem

There are many problems on health demand issues that are really affecting the people in Nigeria. The health care system in Nigeria and the health status of Nigerians are in a deplorable state (Olayiwola, 1990; Aluko – Arowolo, 2005). In Nigeria, it is common to see health institutions with no drugs and dilapidated structures (Gafar & Bello, 2003). According to Ayogu (1999) in Ichoku and Leibbrandt (2003), it is estimated that about 200, 000 Nigerian children die every year from diarrhea – related illness while about 650, 000 people are afflicted by Guinea worm. This problem is also aggravated by medical personnel inadequacy in Nigeria. Abdulraheem, Onajole, Jimoh and Oladipo (2011) reported that one of the hindrances to the development of health especially in Nigeria is the insufficient number of medical personnel as well as their uneven distribution. In another research conducted by Nnebue, Ebenebe, Adinma, Iyoke, Obionu and Ilika, (2014) on maternal health utilization in Nigeria it was found out that Nigeria is among the low and middle income countries that lack access to basic quality health care services. They went ahead to say that the situation is further worsened by the fact that about 99% of the causes of maternal mortality in developing countries are preventable. Some of the identified problems that hinders adequate demand for health care services in Nigeria ranges from poverty, huge out-of-pocket/catastrophic health expenditures, inequality and vulnerability, inadequately trained medical personnel, lack of accessibility to medical facilities, inadequate and

deplorable health facilities, obsolete health facilities, ignorance, socio-cultural, economic, environmental and demographic factors.

Health care services utilization have been carried out by numerous researchers in order to broaden the knowledge of the factors, dire situations and circumstances that militates against the possibility of utilizing health facilities. Demand studies on the other hand do not attempt to specify all the many factors that might be important in individual cases; rather, they attempt to relate only those factors that are considered on the average to be most important in influencing usage of medical care services (Feldstein, 1965). Providing access to health services without impediments has become more complex in the context of an increasing role of private providers and frequently, a more limited role for the public sector (Grundy & Annear, 2010). According to WHO (2010) out-of-pocket expenses or direct health finance is negatively impacting on the wellbeing of households thereby inducing them to postpone seeking medical treatment in Nigeria. Nigeria is faced with low health status amidst poverty and this can be very devastating (Vonke & Fundal, 2014). For Nigerians, the resources needed to demand for health care utilization are hindered sometimes by poverty. Poverty is the lack of material well-being, insecurity, social isolation, psychological distress, lack of freedom of choice and action, unpredictability, lack of long term planning horizon etc (Narayan, 2000).

Enugu state is not isolated from the numerous factors that pose health demand challenges to the people of Nigeria since it is an integral part of the country. Ichoku and Leibrandth (2003) in their research on demand for healthcare services in Nigeria using Enugu as case study stated that household could no longer cope with adverse economic conditions and as a result, nutritional intake and other health enhancing inputs into the household health production function, such as leisure and sports, have either been reduced or eliminated altogether from their schedule. They went further to say that these social upheavals have led to breakdown in the health of individuals, households and communities. Again, they said that because of economic barriers many households can hardly afford medical care.

Previous findings in Enugu State indicate that Primary Health Centres (PHCs) are usually neglected in the supply of water (Ezenwaji, 2009). In another research by Ezenwaji, Ijioma, Enete and Ahiadu (2014) on water supply as a necessary factor in the utilization of primary

health care centres in rural Enugu state found out that water supply is a critical infrastructure in the delivery of good health. This is because, according to them, that water is employed in the manufacturing of drugs, cleaning various containers used in the storage of such drugs, environmental cleaning of health institutions which includes flushing to toilets, scrubbing of floors and washing of hospital beddings. To their dismay most Primary Health Centres lack adequate water supply for the provision of health services. They identified other problems associated to lack of water supply to health centres in Enugu to include escalation of cost of health services due to purchase of water from water vendors, reduced sanitation in such health care centres with unclean toilets, limited patronage of healthcare centres etc. This report is an ugly incident in the state as long as demand for health care is concerned.

To determine accessibility to health facilities in Enugu urban, accurate knowledge of the facilities and the spatial distribution is required (Eze, 2008). In the work of Ejiagha, Ojiako and Eze, (2012) on accessibility analysis of healthcare delivery system within Enugu urban area using Geographic Information System (GIS) as a platform to assess the distribution and route to the health institutions identified various problems. Some of which amongst others includes that; the demand for healthcare services has increased over the years in Enugu urban area due to the growing population of the city, that healthcare facilities that were initially meant for two settlements are now being used by seventeen settlements of Enugu urban area. They also saw the problem of congestion in-and-out of health facilities in Enugu urban to traffic and economic activities associated with urban area. They mentioned that the above problems lead to self medication, patronage of patent medicine dealers, infant and maternal mortality etc. This current situation of health care delivery in Enugu urban leaves much to be desired.

Uzochukwu, Onwujekwe and Ezumah (2014) also identified some difficult and unresolved factors that hinder good quality healthcare services in Enugu State of Nigeria. These challenges ranges from inadequate government funding for health care system, ban on recruitment of health workers, lack of 24 hours services, irregular monitoring and poor evaluation of staff, infrastructure decay and dilapidation, financial and geographical inaccessibility of healthcare to most citizens, absenteeism of health workers and out-of-drug syndrome. All these, they said made the Enugu state healthcare delivery system to be ineffective, inefficient and inequitable, leading to poor health status of the people.

Ajaero and Madu (2008) found out that the mortality rate in Enugu is as high as 135 per 1000 births and most cases of mortality are from preventable disease. Okeibuno, Onyeneho and Okonofua (2010) in their research found out that Maternal Mortality Rate (MMR) in Enugu is about 1,400/100,000 live births which is the highest compared to other southeast states. This was propelled by socio-cultural factors, poor access to skilled medical personnels, abysmally low ratio of doctors to pregnant women in the state which is 1:1,581, severe anaemia, malaria, obstructed labour, unsafe abortion, eclamptia, postpartum haemorrhage and infections. Furthermore, they stated that poor maternal health status in Nigeria, in general and indeed Enugu State is largely attributable to poor antenatal care practices, lack of access to and use of unskilled birth attendants, weak healthcare delivery system, aggravated poverty, ignorance on the part of the women and also thinly spread and few medical facilities. However, reasons for this situation in Enugu remain unclear.

The inadequacy of health delivery system coupled with infrastructure decay in Enugu poses a great challenge to people to demand for healthcare utilization. By infrastructure it is meant; the physical structures which includes buildings and other fixed infrastructures like pipe borne water, good access roads, electricity etc within the healthcare environment and the technology which are the equipments meant specifically for hospital use and includes surgery equipments, computer equipments, scanning machines and other consumables. Human resource on the other hand, comprises the health professionals such as doctors, pharmacists, nurses, midwives, laboratory technologists, administrators, accountants and other sundry workers (Erinosho, 2006; Efe, 2013).

The Enugu state government, however, is making a lot of effort to see that the health care delivery system is tremendously improved in order to spur people living within the state to demand and utilize it. This they did through the establishment of the District Health System (DHS) in January 2004 as a form of decentralized provision of health care where health facilities, health care workers, management and structures are organized to serve specific geographic region or population (Uzochukwu, Onwujekwe & Ezumah, 2014). Despite these huge effort by the government, there still exist glaringly and obvious factors that hinders, impede or frustrate most citizens, especially the poor that lives within the Enugu urban from demanding the utilization of health care services. In this regard the research wants to find out the outcome of

some of the factors that affects demand for health care services in Enugu metropolis of Enugu state, Nigeria. So far, the main focus of this research is to determine answers to the research questions stated below.

1.3 Research Questions

1. What factors influence demand for health care services amongst households living in Enugu urban area of Enugu state, Nigeria?
2. What is the level of utilization of health care facilities amongst households living in Enugu urban area of Enugu State, Nigeria?

1.4 Objective of the Study

The broad objective of this study is to know the factors that affect the demand for health care services within the Enugu urban area of Enugu state given choices of health care providers. The specific objectives are thus;

1. To ascertain the factors that influence demand for health care services by households living in Enugu urban area of Enugu state, Nigeria.
2. To ascertain the level of utilization of health care facilities amongst households living in Enugu urban area of Enugu state, Nigeria.

1.5 Research Hypotheses

The hypotheses are formulated to guide this study;

H_{01} : There are no significant factors influencing demand for health care services amongst households living in Enugu urban area of Enugu.

H_{02} : The utilization level of health care facilities amongst households living in Enugu urban area of Enugu State is not significant.

1.6 Scope of the Study

The work covers the demand for health care services utilization in Enugu metropolis which consists of Enugu North, Enugu South and Enugu East Local Government Councils of Enugu state, Nigeria. The study looks at ascertaining the factors that influence the demand for health care services utilization in these three local government areas that makes up the Enugu urban area.

1.7 Significance of the Study

The essence of this study is to find out those factors that pose serious problems and affect the demand for health care utilization in Enugu urban area given choices of health care providers. The concentration of the study in the urban area of Enugu state is very important. Majority of the urban residents live in clustered settlements in Enugu, especially the poor. These settlement areas are characterized by poor health and environmental conditions that made them vulnerable and susceptible to various illnesses and diseases. Again, the socio-economic conditions of these urban settlement dwellers are not too good.

In view of the above, the research will provide information to the government of Enugu state of Nigeria on the factors that influence residents of Enugu urban in demand for health care services. The research will also find out the level of utilization of hospital facilities in Enugu urban area. In addition, findings of the study would add to existing knowledge about health care delivery system within Enugu metropolis. Hence, the result would provide effective guide to the State government formulation of health care policies as it would reflect the real challenges facing health care utilization among the local populace.

For the academia, findings of the study would be useful to students and researchers with interest in health economics. As reliable information on the level of utilization of health care services, factors influencing choice of health care provider and pattern of demand for health care services among various classes of healthcare users in the city would open a new window of health care research opportunities in the State and Nigeria at large. Again, result of the study would provide investors with needed information on the nature of demand and supply for health care services in the State.

Lastly, it is important to note that Nigeria has been performing abysmally in various national and international health care surveys. To this effect, inadequate knowledge of existing health care delivery services among the citizens and poor health statistics with which government policies were formulated were often repeated among the reasons for poor health indicators in Nigeria. This study would provide the needed information gap by exposing the general public to existing health care delivery services through issuance of research questionnaire and interviews. On the other hand, result of the study would provide the policy makers with facts and figure as it relates to the demand for health care delivery services in Enugu metropolis.

1.8 Structure of the Study

This study was made up of six chapters. Chapter one presented the background of the study, statement of the problem, objectives of the study, research questions and hypotheses, significance of the study, scope and structure of the study. Chapter two was dedicated to information on socioeconomic context of the demand for health care utilization in Nigeria. Discussed under this topic was overview of the health care sector in Nigeria, challenges of implementing primary health care in Nigeria, and a brief history of Enugu urban area and its health profile

Chapter three was centred on the review of related literature. It was further divided into four main parts which include conceptual literature review, theoretical literature review, empirical literature review and limitations of previous studies. While the conceptual literature review gave definitions of key concepts in the study, the theoretical literature discussed several theories related to demand for healthcare service utilization. Chapter four of the study dwelt on the research methodology employed in assessing factors that influence demand for health care service as well as the level of utilization of health care facilities amongst households in Enugu metropolis. The chapter was segmented into analytical framework upon which the study was based, model specification, area of the study, data collection, method of estimation, estimation problem, data source and ethical clearance.

Chapter five was on presentation and interpretation of findings. It started with introduction to data analysis, factors influencing the demand for health care services amongst households in

Enugu Metropolis, level of utilization of health care facilities amongst households living in Enugu metropolis, evaluation of hypotheses and policy implication of the findings. Lastly, Chapter six presented the summary of major findings, policy recommendations, limitations of the study, recommendation for further research and conclusion.

CHAPTER TWO

SOCIOECONOMIC CONTEXT OF THE DEMAND FOR HEALTH CARE UTILIZATION IN NIGERIA

2.1 Overview of the Health Care Sector

Nigeria runs a federal system of government with three levels which included the federal, state, and local government council (LGAs). While there are 774 LGAs within the 36 states and Federal Capital Territory (FCT) Abuja, the LGAs are further sub-divided into 9,565 wards. The states and FCT are grouped into six geo-political zones of the North Central, North-East, North-West, South-East, South-South and South-West. Going by Nigeria constitution, the 774 LGAs are the constitutionally-designated provider of primary health care (PHC) (United States Government Interagency Team, 2011). Unfortunately however, they are the weakest arm of the health system in the country. There are about 25,000 PHC facilities nationwide with a population to health facility ratio of about 5,600 residents to one or in the other way round 1:5600 (Timothy, Irinoye, Yunusa, Dalhatu, Ahmed & Suberu, 2014).

Health services are provided by the private and public sectors. From private sector, there are community-based organization, non-governmental organization, private for-profit providers and religious and traditional health care providers. The private health care system providers care for a substantial proportion of the population. They consists of tertiary, secondary, PHC facilities, patent medicine vendors (PMVs), drug sellers, and traditional practitioners (World Health Organisation, 2000). According to Timothy et al (2014), more than 70 percent of all secondary facilities and about 35 percent of PHC facilities are private. Services provided by the private sector are either subsidized or full cost such as privately owned clinics and hospitals. Payment for these services is usually through direct out-of-pocket expenditure. Estimate by Timothy et al. (2014) show that about two-thirds of the population in rural areas lives within five kilometres of a public or private sector PHC clinic. There are about 36,000 PMVs nationwide, fairly evenly distributed between urban and rural areas. However, quality of care in both the public and private health sectors needs substantial improvement (TWG-NSHDP/ Health Sector Development Team, 2009).

The government bears full responsibility of health service provision in public sector. Within the provision of health services in public sectors are three levels of health care providers which include the primary, secondary and tertiary providers. At the primary level, services are at the door step of communities where preventive, curative and pre-referral cares are provided. Medical personnel that provide such services are nurses, community health officers, community health extension workers (CHEWs) and environmental health officers. The available facilities at this level include health centres, dispensaries, and health clinics (Nigeria Federal Ministry of Health, 2004).

At secondary level, there are general hospitals to provide medical, laboratory and specialized health services, namely, surgery, obstetrics, paediatrics, gynaecology and so on. Major health workers that are at the secondary level are doctors, nurses, midwives, laboratory scientists and pharmacists etc (Idowu 2014). Tertiary level of health service provision is the highest health care in the country. The facilities include specialist and teaching hospitals, and federal medical centres. They are equipped with high technology for special health services and serve as resource centres for knowledge generation as noted by Idowu (2014).

Despite above structures on ground, the health status in Nigeria is ranked low among other developing countries in the same category. For instance, life expectancy is put at 52 years in 2011 and crude death rate, in that same year as 14%. It is estimated that 124 out of 1000 new births do not survive beyond age 5 (Bloom & Canning, 2008). Bloom and Canning further contend that only 39.56% of male and 42.25% of female survive up to the age of 65 years. There are close to 3 million adults (ages 15-49) living with HIV. While the estimated HIV/AIDS prevalence rate is 3.7m. Nigeria has large stock of health workers that is comparable to that of Egypt and South Africa. However, births attended by skilled health personnel are estimated at 39 percent of total birth.

The expenditure pattern shows that only few amounts are spent on health in Nigeria. In 1997 for example, 4.6% of gross domestic product (GDP) is accounted to have been spent on health care. The figure rose to 6.6% in 2005 and latter fell to 5.8 in 2009. The actual total expenditure for 1997, 2001, 2005 and 2009 stood at ₦134,522, ₦256,283, ₦972,921 and ₦1,596,573 respectively (Idowu, 2014). The figure is an indication of poor commitment of the nation to

improved health provisions and deliveries. In the total health expenditure (THE), the available data shows that out of pocket expenditure constitutes higher proportion. Public expenditure on health (PHE) was 36.7% of the total health expenditure in 2011. While out of pocket expenditure accounts for 60.4% of the total expenditure (Idowu, 2014).

2.2 Challenges of Implementing Primary Health Care in Nigeria

According to Olayiwola (1990) the healthcare system in Nigeria and the health status of Nigerians are not in a good shape. Nigeria's overall health system performance was ranked 187th position among the 191 member states of the World Health Organization in 2000. As such, health status indicators are worse than the average for sub-Saharan Africa (Aluko-Arowolo, 2005). For example, infant mortality rate of 115 deaths per 1,000 live births; under-5 mortality rate of 205 deaths per 1,000 live births; and maternal mortality ratio of 948 deaths per 100,000 live births (range 339 deaths per 100,000 live births to 1,716 deaths per 100,000 live births) is one of the highest in the world (Federal Ministry of Health, 2004). In Nigeria over 70% of her inhabitants live in rural communities yet the area has not attracted sufficient health facilities/projects that would substantially improve the health need of the rural dwellers. Apart from this, most of the health infrastructural facilities are concentrated in urban areas to the neglect of rural areas, and the few health facility located in the rural areas are not functioning effectively (Ajilowo and Olujimi, 2007). Chief among the challenges faced by health care provision in Nigeria is partly finance, and partly management. Table 2.1 below shows evidence of poor financing of the sector in recent past.

Table 2.1: Government expenditure, health expenditure and gross domestic product (GDP) in Nigeria (2009-2013)

Year	Government Expenditure (₦'billion)	Health Expenditure (₦'billion)	Recurrent Health Expenditure (₦'billion)	Capital Health Expenditure (₦'billion)	Health % of Govt. Exp	Health % of GDP
2009	3453.0	148.5	90.2	58.3	4.3	0.3
2010	4194.6	155.2	99.1	56.1	3.7	0.3
2011	4712.1	254.5	231.8	22.7	5.4	0.4
2012	4605.4	267.1	197.9	69.2	5.8	0.4
2013	5185.3	295.6	180.0	115.6	5.7	0.4
2014	4587.4	160.6	126.0	34.6	3.5	0.2
2015	4988.9	264.4	257.7	6.7	5.3	0.3
2016	5160.7	263.2	202.4	60.8	5.1	0.3
2017	8302.1	431.7	236.1	195.6	5.2	0.4

Source: Central Bank of Nigeria (2018)

Similarly, Efe (2013) suggested that these dismal healthcare infrastructural facilities have led to the dearth of the availability of accurate, timely, reliable and relevant health information in most health establishment in the rural areas, which is the most fundamental step towards informed public health action. Consequently, there is glaring lack of information and overriding interest in supporting and ensuring the availability of health data and information as a public good for utilization by the public and private sectors and, the non-governmental organisations. And these are needed for effective management of health and health resources. Also, the planning, monitoring and evaluation of health services are hampered by the dearth of reliable data on a national scale. Until recently, the basic demographic data about the size, structure and distribution of the population were unreliable. The system for the registration of births and deaths on a national scale is not satisfactory, most especially those of the rural areas (Efe, 2013). Also, the system of collecting basic health data on births, deaths, the occurrence of major diseases, and other health indicators on a country-wide basis is still underdeveloped in such a way that retrieval of health information and data for research and other health planning issues from health establishment in Nigeria become difficult. As a result of this fact, available estimates are obtained from only few centres where such data are collected, national surveys, institutional

records and special studies. This problem according to health officials is partly caused by lack of enough skilled staff and infrastructural facilities in the health establishments, most especially in the rural areas (Efe, 2013).

In particular, the essence of health care to the local government is to make the management of primary health care services more effective and closer to the grassroots. However, in view of the level of health awareness, one wonders the extent to which health care has been taken to the doorstep of the people. One of the key impediments to the development of health especially in Nigeria has to do with insufficient number of medical personnel alongside their uneven distribution. In a bid to solve this reoccurring problem, the Third Nigeria National Development Plan (1975-1980) was geared towards correcting the inequity in the distribution of medical facilities and manpower/personnel. Despite the effort by the government to ensure a more even distribution of resources, substantial disparities are still evident. This underscores the reasoning of Iyun (1988) who observed that deterioration in government facilities, low salaries and poor working conditions had resulted in a mass exodus of health professionals. Instead, much of medical personnel are concentrated at the urban centres to the neglect of the rural areas.

Another significant problem in the management of PHC is transportation. It has been reported in most primary health centres that there are not enough means of transportation to enable workers to perform their task especially to the rural areas (Efe, 2013). Immunization outreach services are inadequately conducted. The maintenance culture of the existing vehicles is poor while PHC vehicles were used for other purposes other than health related activities. To put succinctly, many of the PHC vehicles donated by UNICEF in the 1980s are totally non-functional (Wunsch & Olowu, 1996). Access to many parts of the communities is hampered by natural topographical and weather conditions, finance, degree of dependence of the local government council on federal, state and international agencies for support since the internally generated revenue of the LGA is usually very small (Adeyemo, 2005); low level of community involvement (Omoleke, 2005), general misuse and abuse of the scarce resources by some political class and administrative leadership and high leadership turnover at LGAs (Adeyemo, 2005).

Despite the implementation of National Health Insurance Scheme (NHIS) in 2005, which according to Odeyemi and Nixon (2013), was targeted to ensure 'universal coverage' and access

to adequate and affordable healthcare services so as to improve the health status of Nigerians, chronic incidence of poverty and low health awareness made it pretty difficult for people to enjoy its benefit. In addition, poor health facility, inadequate financing and shortage of trained health professionals constituted a setback of supposed benefit of NHIS in Nigeria.

Based on above health sector antecedent in Nigeria, this study intends to focus on demand for health care utilization and its attendant challenges in Enugu metropolis, South-East Nigeria.

2.3 A Brief History of Enugu Urban Area and its Health Profile

Enugu urban is the capital and administrative headquarters of Enugu state in the South East of Nigeria. The City Enugu officially gained township status in 1917 with Udi hills (Ngwo Hills) and Iva Valley as the first settlement areas. Enugu means “hill top” in English Language. Enugu town is located within coordinate $6^{\circ}22^{\circ}\text{N}$ to $6^{\circ}38^{\circ}\text{N}$ and $7^{\circ}28^{\circ}\text{E}$ to $7^{\circ}37^{\circ}\text{E}$ (Ejiagha, Ojiako, & Eze, 2012). It has an annual mean temperature of 27°C (80°F); (Ezenwaji, Ijioma, Enete & Ahiadu, 2014). The Enugu hills are estimated to have an elevation of about 1000 metres (3,300ft) above the sea level (Ofomata, Umeuduji and Ekwutosi, 1994). The present day Enugu urban is mostly owned by the Nike people by the East, the Ngwo and Ogui people by the North and Awkunanaw people by the South. Enugu urban population is about 722, 664 (NPC, 2006).

The Enugu urban covers three local government areas namely: Enugu East, Enugu North and Enugu South. The local government council areas manage the primary education and primary health care services. There are settlements, layouts and estates which are Uwani, Awkunanaw, Amechi, Abakpa Nike, Emene, Coal Camp, GRA, Iva Valley, Obiagu, Garki, Agbani Road, Ziks Avenue, Old Park, New Haven, Chime Avenue, Ogui/Owerri road, Achara Layout, Maryland, Awkunamaw, Enugu Ngwo, Trans-Ekulu, Independence Layout, Ugwuaji, Presidential/Asata Area and a lot more others.

Enugu health care services can be obtained at several institutions both public and private. The Enugu state government established the District Health System in 2004 in order to make sure that health delivery gets to every nook and cranny of the state. However, most hospitals in Enugu state suffer from a poor standard of medical facilities available to them. This does not help matters in the face of several diseases suffered by the people of the state. According to Ezeala-

Adikaibe et al (2014) in their research on pattern of medical admissions at the Enugu State University Teaching Hospital (ESUTH) reveals that the people of Enugu state suffers from such diseases and illnesses as Neurological Disorders (ND), Endocrinal Disorders (EN), Cardiovascular Disorders (CVD), and Infectious Diseases (ID). According to Ike (2008) a review of admissions into the medical wards of the University of Nigeria Teaching Hospital (UNTH) Enugu reveals mostly the cases of Cardiovascular Disorders (CVD), Central Nervous System Disorders (CNSD), HIV-related disorders, Communicable Diseases (CD), and Non-Communicable diseases (NCD). These are some of the health related cases that the Enugu people suffer from.

Enugu state boasts of two teaching hospitals which are the University of Nigeria Teaching Hospital (UNTH), and Enugu State University Teaching Hospital (ESUTH) Parklane Enugu. There are other specialist hospitals in Enugu urban like the Federal Neuropsychiatric Hospital New Heaven Enugu for the treatment of mental related cases, the National Orthopaedic Hospital Enugu for the treatment of joints, bones and flesh illnesses, and the school of Dental Technology Trans-Ekulu Enugu. Others are cottage hospitals, health centers, religious denominated hospitals and numerous private hospitals and traditional health healers. Nevertheless, the question remains to find out the factors that affects people in the Enugu urban area in demand of health care service utilization.

CHAPTER THREE

LITERATURE REVIEW

3.1 Conceptual Literature Review

The concept of this topic of demand for health care utilization is based on the following: health care services, demand analysis, demand for health service and utilization of health facilities. The concern of these aforementioned is to help in explaining and understanding the topic.

3.1.1 Health Care Service

Medical care service is the service consisting of the control and or management of diseases or other unwanted physical or mental conditions, be they actual or potential. Medical care is not purchased merely for a hospital admission or a physician visit, rather it is purchased with the hope of receiving something more basic; good health (Feldstein, 1965). Medical care services are both complementary and interchangeable. For hospital care and physician care in treatment are complementary and out-patient and nursing home are interchangeable. Health care goods and services are both consumption goods (people consume it because it makes them feel good and investment goods because people consume it to makes them more productive (Louella, Andrea & Jamora, 2014). People who consume health care service do not have perfect knowledge about their condition and will rely on professionals for decision making. The doctor is the professional and the agent acting on behalf of the principal who is the patient, in making decisions about what health care to purchase (Dewar, 2010).

However accessibility to these healthcare services is very important. Access determines whether patients are aware of services and are able to reach them within an acceptable time (Grundy and Annear, 2010). Where health systems are characterized by high out-of-pocket payments and a wide range of public and private providers, understanding the health seeking behaviours of different communities and population group is essential if adequate access to health care service and protection against unaffordable costs are to be achieved.

3.1.2 Demand Analysis in the Study

In the context of this research studies of demand have two purposes. The first is explanation; the ability to specify and estimate the relationship between use of a product or service and the factors influencing this use. The second is identification and measurement of the explanatory variables which are useful when formulating policies aimed at increasing or decreasing the use of service and assessments of effects of public policy measures aimed at any of the explanatory factors. The other important use of demand study is for future prediction (Feldstein, 1965).

3.1.3 Demand for Health Services

At any time innumerable factors may influence a person to make medical demand. Therefore, to investigate these factors influencing demand for health care services utilization, there must be an approach. The demand approach for medical care utilization is determined by several economic and socio-cultural and demographic factors, prevailing medical practice, as well as incidence of illness. The demand for healthcare service is the demand for a treatment. Moreover, this demand is typically initiated by the patient. The physician combines his own services and hospital services to provide the patient a treatment of given quality (Feldstein, 1965).

3.1.4 Health Care Utilization

Utilization means the act of using something and the manner in which that something is used. Health care utilization and health status is used to measure the effectiveness of how health care facilities are used to produce good and quality health product. That is, the average attendance at the various sources of health care over a period of time and age, sex, education, religion, occupation, location, concept of illness, source of information about sources of healthcare and the index of satisfaction (Chukwuani, 1990). Age and sex are the most common covariate in analyzing (utilization of health services, because they are proxies for a person's need for services and are neatly always available (Diehr, Yanez, Ash, Hornbrook & Lin, 1999).

Rebhan (2011) also contributed some key concepts in health care utilization. They are three factors which he said that are responsible for influencing the process of health seeking: 1) health care access; 2) culture; 3) social networks. Access describes the ability to utilize services and

incorporates economic, geographical location, ample sufficiency of health services, physical and social resources. In the event of inaccessibility of health services it is likely that there will be unmet need for health care. Culture is the second thing which he understood to be a complex term referring to values, practices, meanings and beliefs which are transmitted from one person to another through the process of enculturation. Culture he said is often considered a barrier to health services and can influence knowledge and beliefs of illness as well as the course of treatment for illness. Last is the social network which can spur or dissuade an individual from utilizing health services and can function in identification of illness and illness response.

While there are so many other elements that certainly affect health care service utilization, it is worthy to note that good understanding of the above elements will be of benefit in the overall understanding of the topic.

3.2 Theoretical Literature Review

3.2.1 Wagstaff (1986): Theory of Demand for Health: Economic Approach

Adam Wagstaff (1986) of the University of York made one of the strongest contribution in the field of Health Economics through an in-depth and insightful investigation in developing economic approach to analyzing health behaviour. His approach emphasizes the role of the economic factors in shaping health related behaviour which he titled “demand for health” approach since he views the individual as demanding a commodity health. His contributions are built around three concepts namely: The indifference Map, the Health Production Function and the Budget Constraint. These are analyzed below.

The Indifference Map

The indifference map is one of the means that Wagstaff (1986) used to represent the fact that people value health and other things in life but do not place an overriding value on their health. The idea is stated more precisely that suppose health can be measured in terms of “units of health” and other things of life that pleasure can be derived as “consumption”. He said that as indifference curve slopes downward that people will value both health and consumption. An individual will enjoy greater benefit if he enjoys higher units of health and consumption together.

The individual will be indifferent when the combination of health and consumption gives him same level of welfare. The indifference curve also slopes downward to indicate that a unit of one good can be given – up and be used to compensate for the other (that is between health and consumption).

The Health Production Function

Wagstaff (1986) second theory of economic approach to demand for health is the health production function. The individual here exerts high degree of control over their health by virtue of being able to influence their health consumption patterns, their health care utilization and their environment. This idea emanated from factor inputs in firm's "production function". An individual combines health inputs to produce his health which is the health out-put. As more units of health input are used, more health is produce. As more units of health input are used, more health is produced and successive additions to the quantity of health inputs employed results in successively smaller increments in health. For instance increasing health input from 1 to 2 gives 1.5 increase in health from 3 units and increasing health input from 5 to 6 gives 0.5 units of health. This Wagstaff termed the "law of diminishing marginal product" of health inputs.

The health production function shows also how much health care can be obtained from a given quality of health input bearing in mind the state of technical knowledge. Technical knowledge changes through breakthroughs in medical science and dismisses the issues of it being constant. When the state of technical knowledge changes, the position of the health production function also changes. Wagstaff (1986) also correlated the effect of technical knowledge to education as the better educated can assimilate information the more about health matters from the physician and other sources than the poorly educated.

The Budget Constraint

Wagstaff (1986) use of budget constraint is to indicate that individuals have only limited incomes with which to finance their health production and other activities and that neither their health production nor their other activities comes without cost. This significance of this third concept is that individuals have limited resources at their disposal and these resources are used to finance their health production and consumption activities. The individual could use all his

income for health production or alternatively for other consumption activities. He can also use his income in the purchase of some health and consumption goods. The individual cannot spend above his budget constraint. He enters into double jeopardy if the prices of health input and other consumption goods increases and his income remains constant as this will reduce his health production and consumption at the same time and vice versa.

In related contribution to the budget constraint Ichoku and Leibbrandth (2003) said that since the household budget is necessarily limited, choices must be made with a view to maximizing the total utility of the household subject to budget constraints. If a household member fall sick, the utility that the household would derive from giving the individual medical treatment that produces improvement in health status has an opportunity cost in terms of the reduction of the quantity of other consumption goods available to the household. Wagstaff used the second stage of his concept to show or demonstrate how individuals will behave given unforeseen circumstances around them. How much health will he demand and how much health input will he utilize?

Effect of Change in Income

On the effects of changes in income, Wagstaff said a lower or reduced income means a fall or a reduction in the quantity of health inputs employed and deterioration in the individual's health status. Here the individual will behave to consume lower level of health. From inequality perspective his prediction suggests that socioeconomic inequalities in health stem, at least in part from inequalities in income. That as unemployment is associated with low income or no income, it is likely to lead to some deterioration in the health of the individual concerned, regardless of whether any stress effects are operating and the vice versa will be the case above.

Effect of Change in Price

Yet again he explained that the changes in prices (cost) to rise or fall will change the behaviour of the individual towards health consumption and the extent of utilization of health input. Changes in the state of technical knowledge and education status will also be a caused factor in generating inequalities in health.

Similarly Wagstaff summarized as follows;

1. That the demand for health approach has been seen to yield a whole range of testable prediction which shed light on a variety of health related issues.
2. The strength of the demand for health approach to health-related behaviour, is its ability to yield a variety of testable predictions from relatively simple and not unreasonable assumption.
3. It should be emphasized, too, that the demand for health approach provides only part of the information required by policy – makers. Theoretical.
4. Theoretical and empirical analysis of the demand for health can indicate which policy measures are likely to be the most effective in tackling particular problems, but they cannot indicate by themselves which measures are likely to be most cost-effective.
5. The demand for health framework provides information on only the benefits of particular policy measures.

3.2.2 Grossman, N. (1972): The Demand for Health: A Theoretical Investigation

Frew (2014) reviewed the work of Grossman. Michael Grossman has been influential in health economics with his model on demand for health. He believed that demand for health care inputs is demand derived from demand for health itself. Frew came up with the objectives as deduced from the Grossman piece to showcase how individuals allocate their resources to produce health within – the role of age, wage, education and finally understanding how the four quadrant Crossman model works. Crossman said that individuals invest in themselves through education, training and health and the ultimate goal for this investment is to increase earnings.

Change in Equilibrium

From Frew (2014) point of view he was able to give a vivid explanation of the Grossman theory bothering on the question of the effect optimal health stock or demand for health inputs do have in increase life expectancy, getting of higher pay package and going to college with the concept of change in equilibrium.

Change in Age

- 1 The rate at which health stock may depreciate may be faster during some periods of life and decline during others.
- 2 As an individual age the rate of depreciation of health stock is likely to increase i.e. the health of older individuals is likely to deteriorate faster than the health of younger individuals.
- 3 Assumes that wage and other factors determining marginal efficiency of investment (MEI) in health are not substantially altered by aging.
- 4 Optimal health stock decreases with age.

Change in Wage

- 1 Wage change will not affect the cost of capital.
- 2 Increased wage rate will increase returns obtained from healthy days, hence a higher wage increases = health increase = productivity increase.
- 3 If lower – wage case represents lower health stock, then optimal health stock represents someone with higher wages.
- 4 Optimal health stock increases with level of wages. Benefits of being healthy are greater for higher – wage workers.

Changes in Education

In the section before this it was explained how age and wage changes affects or influences health stock. This particular section is on the influence of changes in the level of education, Grossman says that education improves efficiency in production. This becomes important as higher education level raises marginal product of direct inputs i.e. less inputs are needed to produce a given amount of investment. A given investment can be generated at less cost for an educated person, hence higher rate of return to a given stock of health. The higher education level means a higher marginal efficiency curve. Considering the above assertion, optimal health stock increases with level of education. A more educated person will choose a higher optimal stock of health than the less educated person.

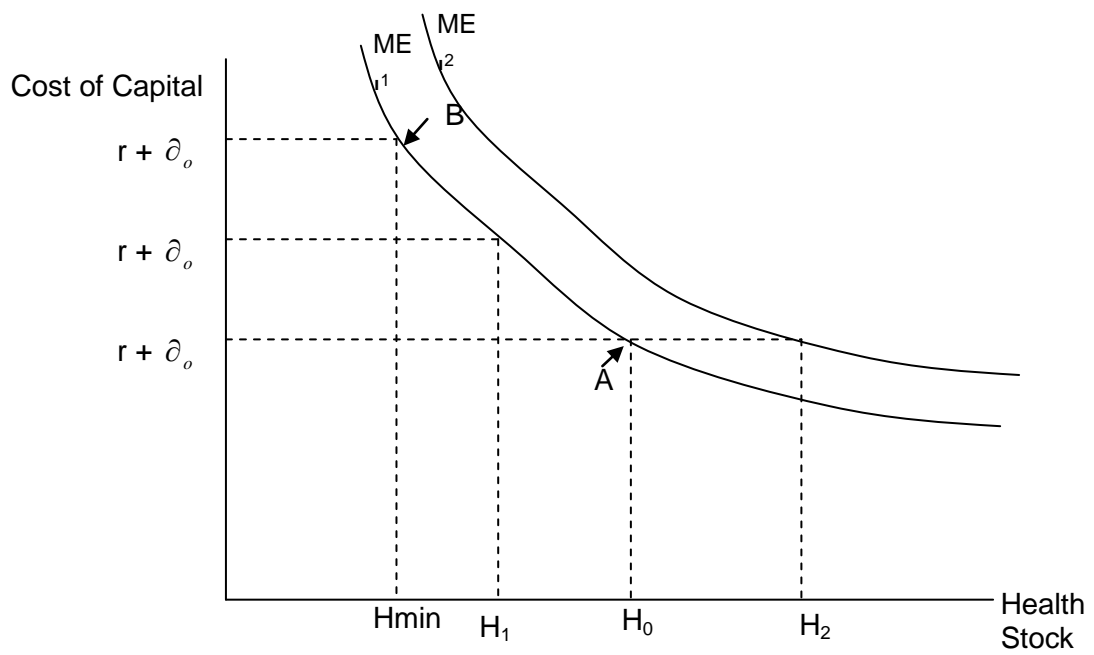


Fig 3.1: Graph of MEI & change in Wage and Education

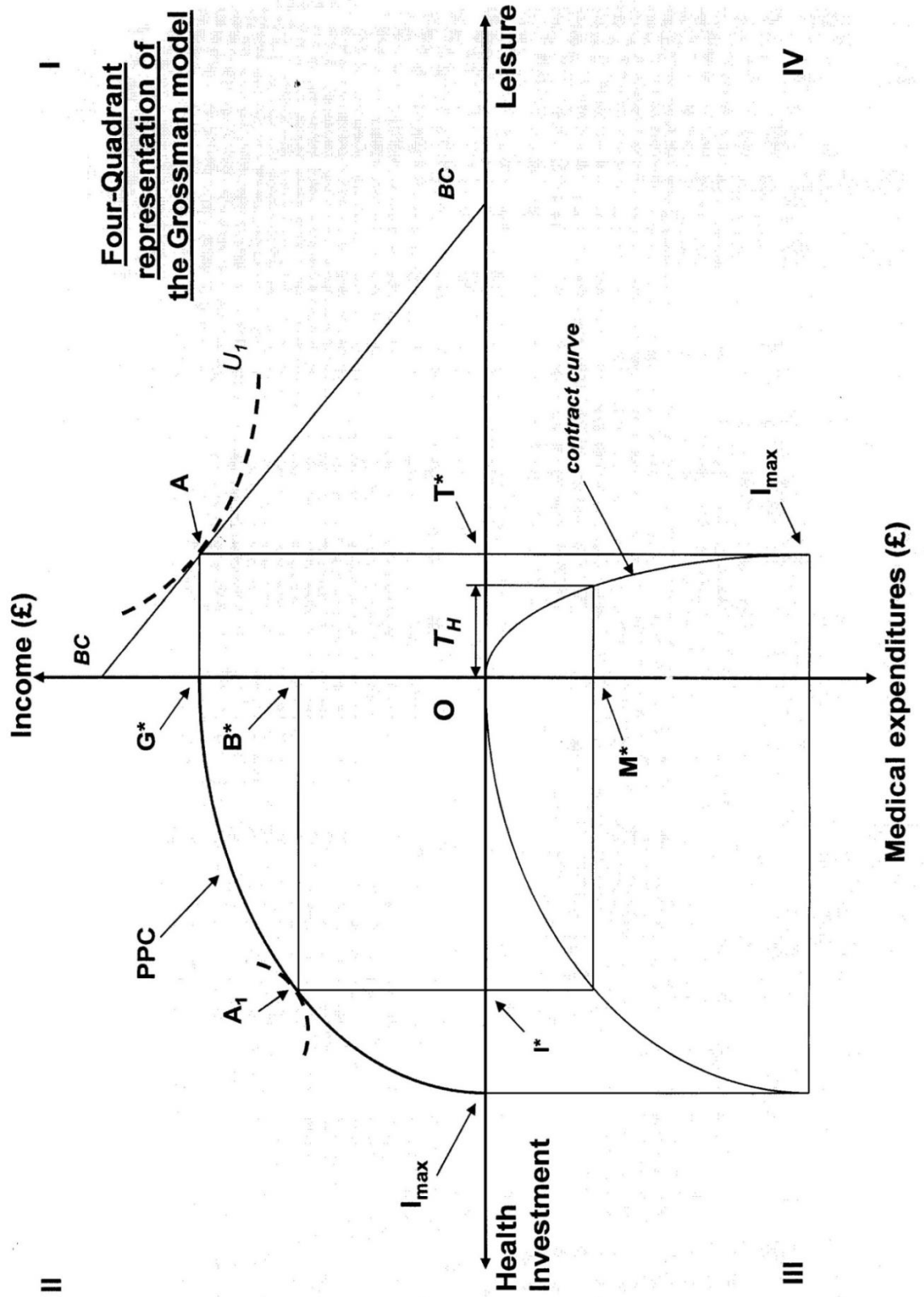


Fig 3.2: Grossman Model of Health Expenditure

Equilibrium in the Integrated Grossman Model

- (1) Consumer picks point A in Quadrant I (G1) generating income of G^* and has OT^* leisure time.
- (2) From Quadrant 2 (QII), consumer's equilibrium is at A1, giving optimal investment in health of I^* and in home good B^* .
- (3) In Quadrant 3 (QIII) M^* is translate to determine level of health in investment I^* .
- (4) In Quadrant 4 (QIV), T_H and M^* are spent on health care.

In concluding the Grossman model of demand for health care the key messages that can be deduced from it as espoused by Frew (2014) is that;

- (A) Individuals allocate time between work and leisure.
- (B) Individuals spend remaining leisure time on health and non health activities.
- (C) Individuals spend income earned on health and non health resources.
- (D) They produce or invest in health capital for future use.
- (E) Optimal health stock will decline as a person ages if the depreciation rate of health increases as person ages.
- (F) Benefits of good health are greater for high wage workers so they demand higher optimal health stock.
- (G) The more educated people are, the less costly it is to generate health resulting in a higher optimal health stock for this group.
- (H) Individuals will allocate resources in order to produce healthy capital.

3.2.3 Demand for Medical Care: Factors Affecting Patients

In summary review of the work of Feldstein (1965) on demand for medical care and factors affecting patients revolves around three basic concepts and may be generally categorized as incidence of illness, cultural – demographic characteristics and economic factors. The first two of these factors may be considered to shape a family's desire for medical care and depend primarily upon the family's perception of health deficiency and believe in the efficacy of medical treatment. In connecting this desire to the third, the family is limited by the extent of its financial resources as care – cannot generally be obtained free of charge. Determining the amount to be

spent for personal health services, then becomes a part of the problem of allocating scarce financial resources among alternative desires. Feldstein further treated the basic concepts as below;

The Incidence of Illness

Need is generated by the incidence of illness while demand for medical care is generated by the interrelationship of illness with other factors. The concept of incidence of illness is that it is considered to be randomly spread among individuals. It however has greater predictability for population groups which has been the basis for planning medical care services through the use of mortality rates, bed to population ratios and physician to population ratios as indication for need. It is the incidence of illness that determines the use of random components of demand for planning hospital facilities. If at any time utilization is random, having large facilities brings certain economies of scale. The random component of demand for health should be used to determine number of hospital facilities at least at mean level using admission records.

Cultural – Demographic Factors

Cultural –demographic factors constitute one of the major things considered as affecting a patient's demand for medical care. This he meant by physiological condition, perception of illness and attitudes towards seeking medical care. Since some of these factors cannot be directly measured, he used specific population characteristics as indicators in his demand studies. They are age, sex, marital status, family size, education and location of residence. Nevertheless he is of the opinion that there are variations in the utilization of healthcare services according to the characteristics of these indicators e.g. between age and sex but they are important population characteristics in determining and explaining variations in demand for health care services. As individuals age incidence of illness increases and morbidity patterns change, accidental injuries and chronic diseases become more frequent causes of death. In considering average difference in utilization of health care services between men and women both marital status and age must be taken into account. Later in life the medical expenditures of women increases because of obstetrical changes and also beyond normal child bearing age. Furthermore he considered marital status as a factor in the demand for medical services. For example the unmarried spend more

hospital days than the married since the married may not have anybody to cater for the home. Together with marital status, the size of the family is another important influence on the demand for health care services.

Economic Factors

Economic theory hypothesizes that, other things being equal, the consumption of any commodity or services varies inversely with price. Prices and income practically affect not only a person's decision to seek medical care, but also the extent of the care once treatment is commenced. Price and or income also have much effect or influence on the choice of hospital. An estimate of elasticity of price greater than one means a more than greater than one percentage change in consumption of medical care and vice versa.

The relationship between income and consumption of medical care services has been examined in a number of studies. In general these studies indicate that families with higher incomes have higher expenditures thereby signifying higher consumption for medical care, but the percentage of income spent on medical care decreases with higher levels of income.

Other factors that may influence individuals decision on demand for healthcare services as said by Feldstein (1965) is the component of care. The physician is acting on behalf of the patient. The way in which the physician uses the inputs factors exerts significant influence on the way individuals demand for medical care. These components of care (inputs) as used by the physician include institutional arrangement, extent of knowledge on the part of physician and availability of supply drugs and other facilities. The point here is that patient characteristics, such as economic and cultural demographic factors influence the amount and type of medical care a physician will prescribe.

Also in the area of theoretical contribution on the demand for health care is Katie (2006). The study was of the opinion that the factors influencing the demand for health care are the patients' factors, health status, physician factors, demographic characteristics and economic standing of individuals. Consequently Katie was able to explain some of the underlying factors.

Under the patients factors she said that consumers must decide among the available alternatives designed to satisfy their desires for health care. The consumers must also be able to weigh the benefits against costs of a good or service they are about to consume. The consumer's decision must be followed with effective demand to be able to pay for the goods or services. The consumers must also be able to rank alternative goods and services.

On health status she said that medical treatment follows an expected pattern – a patient develops a medical condition of illness, injury, pregnancy etc, and seeks out a physician who can be able to diagnose his condition for onward treatment. The patient either dies or recovers from the condition. She said that some illnesses are chronic in nature which complete cure is not possible and has become a major factor in health care spending. Some conditions are more likely as we age e.g Parkinson's disease, Alzheimer's disease, arthritis, diabetes, emphysema etc. Some chronic diseases are not also due to age like HIV, Cancer, and Tuberculosis etc. Some of these conditions determines and influences the pattern of health care demand. Assume a patient finds out that his/her health condition is chronic; he or she may or may not decide to demand for medical treatment. If they decide not to take medical treatment, it is because their illness is chronic and they have already conditioned their mind that one day they will die of it. The same thing happens to age and non-age related chronic diseases.

Advancing further Katie (2006) said that physician factors also contribute as one of the key factors that can influence the peoples' demand for medical care in the sense that the doctors prescribe drugs, admits patients into hospitals and order for tests. There is a 'principal – agent' relationship that exists between the doctors and the patients. An agency exists when an individual (the patient, and in this case the principal) gives someone (the physician, the agent) the authority to make decisions on his or her behalf. This is because in medicine patients are relatively uninformed concerning alternative diagnosis and treatments. For this reason, patients trust doctors to make choices for them because of the difficulty in gathering and understanding medical information. However, problems may arise when the interests of the principal and the agent diverge and this conflict of interest may create a feeling that will affect patients demand for health care.

Meanwhile Katie is of the opinion that doctors have the ability to induce demand due to the reason that patients have a difficult time gathering and processing information. Also given the unique position of doctors, they can serve as imperfect agents, serving their own interests over those of their patients. In other words, they have the ability to influence the demand for the services they personally provide. She also argued that demographic factor such as growing population, an ageing population, sex – male or female (most especially during child bearing) all influences demand for health. Furthermore, it argued that men suffer more frequent health losses due to lifestyle choices of drinking alcohol, smoking and over eating. She said that economic standing such as income, education and expenditures on medical care positively induce demand for health care.

Health Care Utilization

It was Rebhan (2011) who said that health care utilization behaviour is complex and multifaceted. He advanced reasons such as culture, economic, access, perception, knowledge, believe in efficacy, age, gender roles and social roles as among the extensive list of factors influencing both the choice to seek health care and the assessment of which health care option to utilize for prevention and treatment of illness. Nevertheless he argued that it is difficult to identify which determinant factor is most influential in the decision to utilize health care. A look into Rebhan's (2011) reviewed works on health care utilization of various authors such as Sachman (1965); Mechanics (1978); Anderson et al, (1968), (1995) and (2005); Parson (1951); as below an understanding of the subject matter will be achieved.

3.2.4 General Theory of Help Seeking: Mechanic, D. (1978)

In the work of mechanic (1978), help seeking behaviour takes a psychological approach to health care utilization and there are certain conviction points that determine illness behaviour.

1. The perceptual prominence of deviant signs and symptoms: Where an individual notices change in some of his body function, sensation or appearance that indicates a disease or disorder that is associated to illness.
2. The individual's perception of symptom severity: Where an individual's noticed change becomes intense or bad.

3. The disruption of the individual's daily life caused by the illness
4. The frequency of symptoms and their persistence over time
5. The individual's tolerance to symptoms
6. The individual's knowledge and cultural assumptions of the illness
7. Denial of illness as a result of basic needs.
8. Whether or not response to the illness disrupts needs
9. Alternative interpretations of symptom expression
10. Treatment availability via location, economic cost, psychological cost (stigma, humility, etc), and treatment resources.

It is understood according to Wolinsky (1988) that mechanics theory allows for illness response to be influenced by the individual or the person who seems to make a decision for the individual.

3.2.5 Parsons, T. (1951): Sick Role Theory

The sick role theory of health care utilization of Parsons (1951) says that an individual takes a role of being ill when he is sick. He further developed four major parts of this sick role to be thus;

1. The individual is not responsible for their state of illness and is not expected to be healed without assistance.
2. The individual is excused from performing normal roles, tasks and duties due to sickness.
3. There is general recognition that being sick is an undesirable state.
4. To facilitate recovery, the individual is expected to seek medical assistance and to comply with medical treatment.

For this reason, Wolinsky (1988) said that scholars have proposed diverse theories and models which identify factors influencing health care seeking behaviour.

3.2.6 Suchman, E. (1965): Stages of Illness and Medical Care

With figurative illustration Suchman, showcases the five stages of individual's decision process that will determine him to utilize or not to utilize health care services.

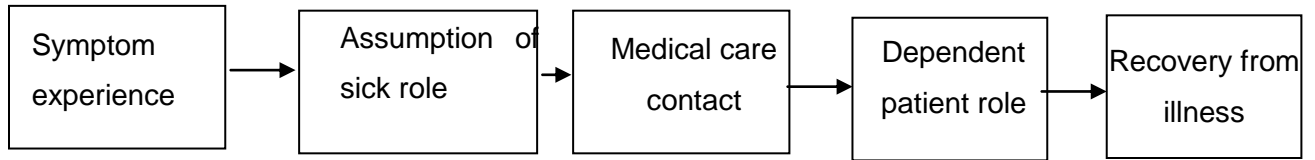


Fig 3.3: Suchman's Stages of Illness and Medical Care

1. The individual experiences some illness symptoms
2. The individual assumes a sick role
3. The individual seeks for medical care contact. Quick assessment to professional health care system is dependent on the individual's membership of parochial or cosmopolitan social networks. That is being an inclusive part of the society.
4. The assumption of a dependent – patient role via acceptance of professional health care treatment. At this stage, there is the possibility of conflict of divergent interest or opinions between the sick individual and the health professional.
5. The individual's recovery stage from illness. The individual's recovery is due to giving up or abandoning their role as patient after treatment.

3.2.7 Health Care Utilization Models

Rosenstock, Strecher and Becker (1994): Health Believe Model

Rosenstock, Strecher and Becker (1994) disclosed four fundamental things that individuals do in the cause of treating and preventing disease.

1. The individual's perceived susceptibility to disease: In this case an individual will take measures to prevent the disease once he or she suspects that they are likely to be affected by it. That is an individual takes preventive measures like vaccine, avoidance, quarantine or isolate himself from being exposed to disease infected areas and persons.
2. The individual's perception of illness severity: If an individual suspects that the disease is becoming serious and severe, he will seek for treatment.
3. The individual's rational perception of benefits versus costs. An individual's costs – benefits must be weighed by him. If the benefit is not equal or greater than the costs, he will not seek for treatment or prevention.

4. The individual takes to action through media, friends, family or well known citizen that can provide an impetus for prevention.

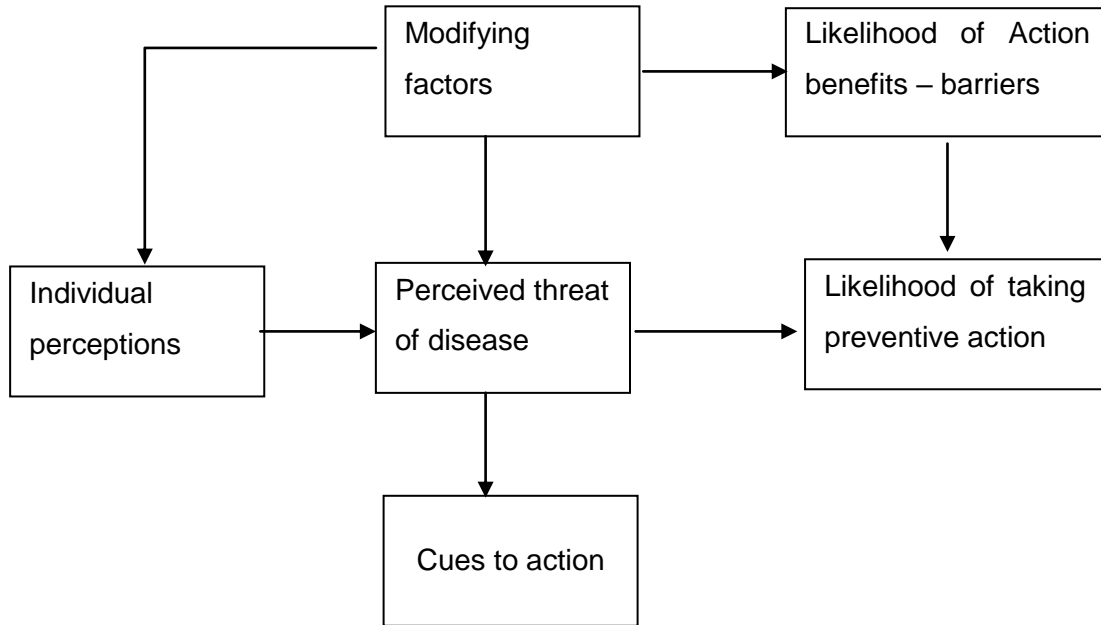


Fig.3.4: Rosenstock’s Health Believe Model (adapted from Wolinsky, 1988)

Andersen, R. (1968): Health Behavioural Model Phase – 1

From the standpoint of the contribution has made by Andersen in his first model of health care utilization are three categories of determinants. The first is predisposing characteristics, the second is the enabling characteristics and the third is need based characteristics. The predisposing characteristics represent the possibility to utilize health care services. This according to Andersen means that the probability of a person utilizing health services or not is dependent on the demographics, position within social network structure and believe in the benefits of health services. A person that believes in the usefulness of health services treatment will subscribe to it. The enabling characteristics talks about the family and community and economic condition and status. Then, the need based characteristics is the understanding that a person knows that he needs health services and should be clinically evaluated.

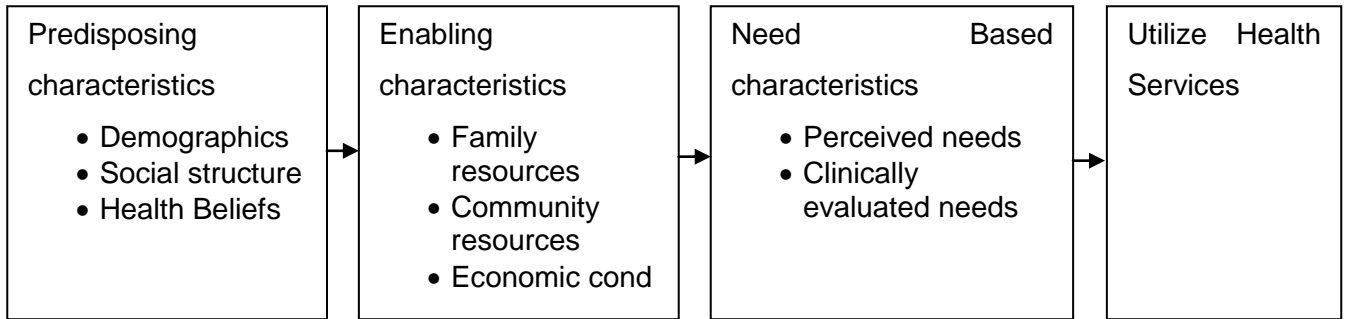


Fig. 3.5: Andersen Behavioural Model of Health Service Utilization
(Andersen, 1995; Andersen & Newman, 2005)

Andersen (1995) Health Behavioural Model Phase - 2

Andersen and Newman later expanded and fine tuned his model to include the health care system. The health care system includes health policy, resources, and organization as well as changes in these over time. The resources consist of the volume and distribution of both labour and capital, education of health care personnel and available equipment. Organization refers to how a health care system manages its resources which ultimately influences demand to health services. Accordingly, the model emphasizes how organization distributes its resources and whether they have adequate labour force that will determine if an individual uses health services. The model also recognizes that consumer satisfaction (the patient) is an indication of health care use. Furthermore the model recognizes that there are several health services available (eg hospital, dentistry, pharmacy, etc) and the purpose of health (eg primary or secondary care). In the model also, whether or not specific health care is utilized and frequency of utilization will have different determinants due to population characteristics and the health services.

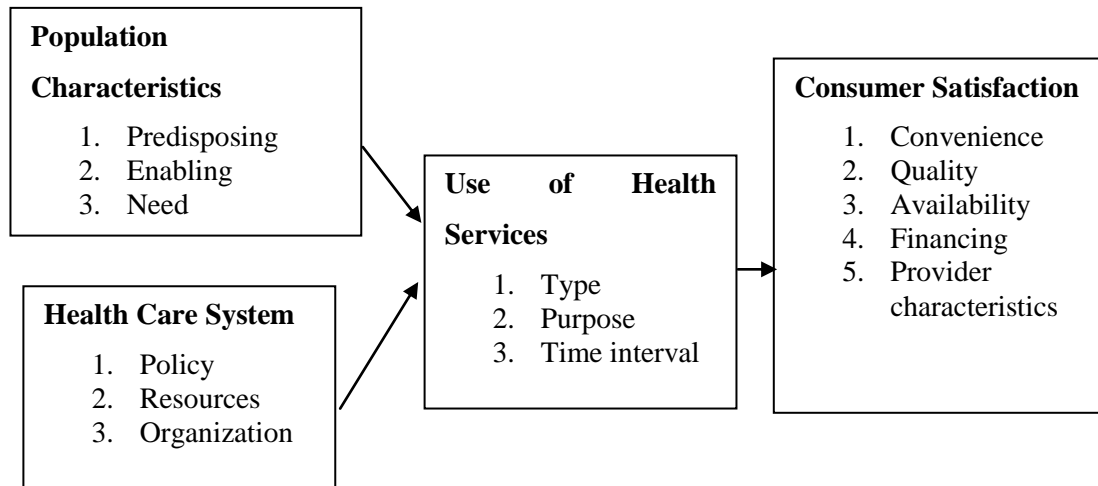


Fig. 3.6: Andersen Phase – 2 Model of Health Services Utilization (1995)

Young, J. C (1981) Choice Making Model

According to his ethnographic studies of health services utilization in a Mexican village, Young was able to propose what he termed a choice making model. This model comprises of four very important parts to individual's health service choice. They include;

1. Perceptions of gravity. This group includes the individual's perception and their social network's consideration of illness severity. The gravity is base purely on the assumption that the culture classifies illness by level of its severity.
2. The knowledge of home treatment. If a person knows that there is a treatment at home of his illness that is effective & efficient, he will be most likely to utilize it before seeking to utilize a professional health care system.
3. The faith in remedy. This is about the individual's faith in the efficiency and efficacy of treatment to his present illness. An individual will not demand for treatment if he does not believe in the effectiveness of the treatment.
4. The accessibility of treatment. Accessibility is made up of the individual's evaluation of the cost of the health service and the availability of those services.

Wilkinson (2001) also identified some elements of health – seeking behaviour as pathway to health care demand with Cambodia evident. His main features were

1. Sharp differences in health seeking behaviour according to socio-economic status and geographical location.
2. A high degree of physical symptoms of psychosocial and economic problems.
3. Lack of understanding of how modern medical method of treatment in healthcare works (including diagnosis and treatment)
4. Traditional perceptions of causal relationships of illness and disease causing 'health-shopping' behaviour.
5. A significant proportion of all illnesses and injuries untreated
6. The central role of Kru Khmer (traditional healer) in health seeking behaviour
7. A cultural preference for curative health care that takes place in, or near to home.
8. Self medication as the first recourse for majority of health seekers
9. A marked preference for private providers and/or traditional healers as first points of contact, due to easy access, flexibility of payment and availability of drugs and or injections
10. Limited knowledge or actual misinformation about costs and availability of services at health centres.
11. Lack of information crucial in hampering informed choices

Probing further into health care utilization, Rebhan (2011) said that the economic costs of health care seeking include not only payment, but also lost productive time, and the expense of transportation. Taylor (2003) said that unless provided with a subsidized health care plan, persons of lower socioeconomic status may have difficulty affording the costs associated with health care demand thereby making most people unlikely to use them. In another hand, Young and Garro-Young (1982) said that transportation, time, access to medical care, sparse and geographically distant health services, will impede accessibility and demand to health care services.

Geographical location can also be an impediment to an individual who suffered serious injuries (La Vela, Smith, Weaver, & Miskevics, 2004). Moreover, beyond physical limitations, social resources are also integral to health care utilization. The social resources include family economic capital, social support, group knowledge of illnesses and illness treatments (Rebhan,

2011). Culture also shapes not only illness treatment but also, recognition of illness, and confidence in efficacy of specific treatments for specific illnesses (Rebhan, 2011).

3.3 Empirical Literature Review

Many empirical literature have been contributed by different researchers on the demand for health care services and their findings suggest that the demand for health care services depends on a variety of factors that influence it. Studies on the demand for healthcare services utilization is something that is both national and international in scope. The countries may vary in developmental stages (developed and developing countries). Therefore to capture many of the factors affecting the demand for health care utilization, empirical evidences from these researchers have to be looked into. The empirical results obtained by them through regression estimation (both locally and internationally) will be informative and helpful.

3.3.1 International Literature

Mwabu, Wangombe and Nganda (2003) in their research on the demand for medical care in Kenya used a quantile regression method to analyze the demand effects of fees over distribution of visits of an urban population to hospital, while controlling for covariates like income and demographics. They found out that user fees are negatively correlated to the use of health facilities due to the base the fees where increased from the previous fees. This happens at a population segment or lower quantile of 25 and on the contrary at 50th and 75th quantile. The findings are in consonance as reported by Murithi (2013), Nwabu et al (2013), Cisse (2006), etc. This suggests that households will resort to self treatment and visit to quacks in cases of higher base fee increment.

In another study, Murithi (2013) in determining health seeking behaviour in Nairobi Slum in Kenya tests the hypothesis that the information available over service quality in health facility affects demand for health care. He used the multinomial logit model (MLM) estimate method and his key findings is that the quality of services, information about this quality, wealth as well as user fees, and gender are the main factors that affects patients' medical treatments. His recommendation is that quality improvement strategies along with health information services should be improved on and properly managed.

Out-of-pocket health expenditure and debt in poor households contributes a lot in determining the way households demand for health care utilization. Van Damme, Van Leemput, Hardeman and Meessen (2004) used quantitative survey method and patients interview in his research about out-of-pocket health expenditure and debts in households. They discovered that out-of-pocket health expenditure frequently causes indebtedness and can lead to poverty. Therefore, out-of-pocket health expenditure has a negative impact on the demand for health care utilization.

Huy, Wichmann, Beatty, Ngam, Duong, Margolis and Vong (2009) used quantitative survey method to assess the cost and impact of episode of dengue fever in Cambodia and discovered that the socio-economic status of households is associated with low hospitalization as the households incur an average debt from out-of-pocket expenses of about US\$23.5 due to high illness related costs. The cost burden of treatment from out-of-pocket expense causes or impedes the rate at which the households demand for health care services in Cambodia.

Khun and Manderson (2007) researched on health seeking and access to care in Kampong Cham. It is an ethnographic study with which quantitative survey method was used and the result was that barriers to health care demand include poverty, limited availability of care and perceptions of the poor quality of care of health centres and hospitals. In cases like this they recommended reduction in incidence of poverty on illness and improve access by the poor to health services.

In another paper that attempts to estimate the factors which influence the demand for health care in Bangladesh, Ali and Norman (2013) used a binary logistic regression model in order to ascertain the determinants of the demand for healthcare. The empirical results indicate that the estimated coefficient of price variable have a negative relationship with demand for health care. The result also indicates that there is a positive relationship between the level of education and income on demand for health care. The authors unequivocally recommended reduced price for the patients and the setting of guidelines by the government to private consultants on health services. The identified factor will however be vital for government policy formulation and impact assessment of health care providers in Bangladesh.

In Uganda Ssewanyana, Nabgonga, Kasirye and Lawson (2006) used 2002/2003 Ugandan National Household Survey data and applied a nested logit regression model on; demand for

health care services in Uganda: implication for poverty reduction. Their investigation revealed that the level of formal education is positive and significant probability in demanding for health care services. Also increased services, availability of drugs, oral rehydration, and immunization all facilitates to the utilization of health services. Again the probability of demanding for health care declines as a result of impact of increased distance to the health facility. Like cost of care, income of households at various levels all have negative influence in the demand for health care services utilization in Uganda. The later result is evidence that the scrapping of user fees in public health facilities in 2001 by the government was a right step in the right direction in order to spur and motivate the people of Uganda to utilize health facilities the more.

Sahn, Younger and Genicot (2002) in researching for the demand for health care services in Tanzania used the nested multinomial logit as a regression model. They want to find out the factors that influences demand for health care services in respect to health treatment options like private clinics, private hospitals, public hospitals and public dispensaries. They found out that price increase in one health care service say public or private hospital or clinic will lead to a substitution to other health care option with lower price rather than no health care treatment at all. According to them, it is only when there is a simultaneous increase in cost of treatment across all health options will demand for health fall measurably. Again they discovered that the poor households are more responsive to price change than the non-poor across expenditure groups and judging from income/wealth index. They also found out that quality of health care, quality of doctors and nurses, higher level of education are all positive and significant factors that influences demand for health care services. They also discovered that the more an illness becomes chronic the more households will demand for health care services along all the treatment options. On the contrary, they said that sex treatment dummy indicates that men are less likely to seek or demand for health care utilization unlike their women counterpart. The same goes for large households due to competition for resources. They are of the opinion that policies on user fee will have far more greater impact on the poor than the rich due to their level of responses to price change which is greater at individual level of income distribution.

In Togo for instance, Abalmba, Alima and Homeroh (2013) in a comparative analysis of the determinant of seeking prenatal health care in urban and rural areas of the country. They sought to know if economic and social factors are important in influencing demand for prenatal health

care amongst pregnant women. They found out as follows; that less educated pregnant women went for prenatal consultations less frequently than the more educated pregnant women, higher wealth index in a household where the pregnant woman comes from is positive and significant to seeking prenatal health care, all together level of education, age of pregnant woman, size of the household she lives, wealth index of her household, below 5 years children in her household, cost of prenatal care, area of residence/distance and quality of care were significant to pregnant woman's choice to demand prenatal health care services or not. They concluded with an important policy recommendation of exposing young girls to education, prenatal awareness campaign, free health care and improved living standard in order to close the gap of low prenatal care.

In 2009, Sarma carried a research in India on demand for outpatient healthcare. His main objective was to examine the role monetary and non-monetary price, income and a variety of individual and household specific characteristics play on the demand for healthcare in India. The data was from India's 52nd National Survey based on geographical location, price, income, severity of illness. The nested multinomial logit model was used. It was found out that age, sex, healthy days, educational status of household members, number of children and adult affects demand for healthcare. He found price and income to be statistically significant determinant of choice of health and are inelastic to demand for health. On the contrary he found distance to formal health care facilities to be negative and it affects demand for out-patient health care. He concluded by saying that the knowledge of the extent to which price and income affect demand for health is crucial in order to help design effective health policy in developing countries.

Randel, McInnes and Stephenson (2006) carried out a research in Cairo, Egypt using 1992 household survey to determine factors that influence the demand for inpatient and outpatient health services. Multi-stage discrete choice model of demand for health care were applied. They chose between categories of public hospitals and private/charitable providers. The result is statistically significant in respect of affluent health consumers who prefer high cost and high quality health care as provided by private and charitable hospitals. Age, sex, level of education and insurance are found to strongly impact demand for medical services. Price they say is highly correlated with quality and the extent of responsiveness to patients are imprecisely in their research due to inadequate control of quality variations. It is of note that the price – quality

correlation is suggestive that private hospitals provide high quality health care and is only affordable to the affluent health consumers to the detriment of the poor ones.

Mohammed (2013) conducted a research on the determinants of demand for health care in Mekelle City in Ethiopia. He inspects carefully the factors that are associated to decision of consulting medical treatment and choice between health care service providers. He used household level factors and applied the nested multinomial logit (NMNL) estimate method using full information maximum likelihood (FIML) techniques that estimates both level simultaneously. At the upper level of the model, he found out that education of the household head and number of days of the patient illness positively and significantly affects demand for medical care. The higher the number of children within the household was seen to negatively and significantly affect the decision to demand for health care. At the lower level of the model, the probability of going to both public and private hospital increases with the log of consumption and quality of treatment but declines with patient age. Patient who had primary education is more likely to attend public hospital for treatment than people who had secondary and tertiary education who would prefer to patronize private healthcare for treatment rather than no-care. He also discovered in his research that demand changes as price of health care changes and changes further with higher level of prices for medical treatment. The result suggests that the poor are affected negatively by user fees than the rich and therefore reduces health care demand by the poor segments of the population.

Mariko (2003) carried out a research in quality of care and the demand for health services in Bamako, Mali: the specific roles of structural, process and outcome components. There was a policy change that led to the introduction of user fee in the health sector in Mali. Economic analysis of demand for health care in Mali was to know the impact of price and income on health service utilization. The data he used in his research was generated through random sampling of about 1191 households and 42 identified facilities. He applied the nested multinomial logit model (NMLM) for the purpose of finding the influence of price and quality on decision making towards demand for health care services utilization. There were six health treatment alternatives of self treatment, modern treatment at home, public hospital, public dispensary, for profit facility and non-profit facility for choice making. After replication, the result shows that price has little significant importance on demand for health services in Bamako Mali. That is, it can be inferred

from his result that the introduction of user fee in the health sector in Bamako did not affect the demand for healthcare services utilization in the city. He recommends a simultaneous action of doubling user fee and improvement in both the structural and process quality of care in public facilities.

3.3.2 Domestic Literature

Ezenwaji, Ijioma, Enete and Ahiadu (2014) conducted a study to know the physical and socio-economic factors that determines the utilization and patronage of primary health centres in Enugu State. The study used water supply as a core variable amongst other nine variables. Multiple Linear Regression (MLR) statistic technique was used for analysis. They found out that water supply, cost of treatment and adequate supply of drugs as variables have a combined contribution of 74.5% to the factors that affects the utilization and patronage of primary health care centres in Enugu State. They specifically stressed the importance of water supply to these centres in order to encourage patients to demand for health care services from these centres.

Ichoku and Leibrandt (2003) carried out a reasonable study on demand for health care services in Nigeria with a view to finding the factors that influences healthcare demand decisions of Nigerian households during period of economic turmoil. Fortunately the sample of the study was from Nsukka area of Enugu State. A Multivariate Nested Logit Model (MNL) was used by them to estimate the parameters. The revealing findings made by them in the study was that higher formal education, additional income, food expenditure, illness severity and age (older people mostly) are positive and statistically significant variables that increases the odds of seeking healthcare from health facilities. Other variable like distance and large household size were found to be negative and impedes the desire to seek for healthcare services. According to them every additional kilometre of distance hinders a patients' ability to demand for health care services while families with large household will have problems of seeking medical attention probably because of scarce resources. Waiting time and treatment cost were also found to be negative but they concluded that they are insignificant because a consumer may consider time a secondary factor to the treatment he is to obtain. Again cost is sacrificed for quality of drugs and quality of care as patients have higher premium on these two things than cost of treatment. They found location to be dichotomous between rural and urban and are of the view that city dwellers

seek medical treatment as twice as possible more than their rural dwellers counterpart. They suggested for a clear-cut policy towards a focus on primary healthcare in order to help in the detection of serious illness symptoms and cure. Not left out in their findings is the importance of the traditional medicine practitioners who though constitute smaller part of the medical market yet are being patronized by the well educated and the upper income quartile clients. They suggest that the policy makers need to critically evaluate their peripheral position of traditional medicine practitioners within the health system to that of prominence. They recommend for training and integration of the patent medicine dealers into the framework of primary health care system.

Adeoti and Awoniyi (2014) conducted a study on demand for health care services and child health status in Nigeria. The data use was individual, household demographic and socio-economic characteristics, community characteristics, wealth index of household, use of health survey and environmental factors. A Two Stage Least Square (TSLS) and the Control Function Approach estimation procedure model were used by them. They found out that the determinants of health status and demand for immunization are age of the child, household size, mother's education and her employment status. The negative factors that influence the demand for child immunization are low literacy level of the mother, high prices of food/inflation, bad weather condition, large household size and rural residency. While the positive determinants are age of the child, high level of mother's education, employed mother, small house-hold size and urban residence. Their recommendation is that a policy that can improve or facilitate the education of the girl child and of the women will enhance their behaviour to demand for their child's immunization. Another is that extended immunization programme to the rural areas will be importance and of immense help to the people residing there.

Ijaiya and Bello (2005) carried out a research on demand for modern healthcare services and the incidence of poverty in Nigeria, using a case study of Ilorin metropolis. Using structural questionnaire and applying multiple linear regression model to analyze the data shows the result that increases in poverty of any household is inversely related to demand for modern health care services in Ilorin metropolis. On the contrary, as found by them, the greater the household size, the better the occupation and the higher the education level of the household, the more they will demand for modern health care services when they are sick. The stressed that when the household is poor with little purchasing power at their disposal, the demand for modern health

services will reduce. The study also indicates that the incidence of poverty in Ilorin metropolis induces on the people that finds themselves within the threshold to sacrifice demanding for modern healthcare services to remaining ill due to cost associated to using those equipment for treatment. They hinted at government's heavy investment in primary health care services, subsidy in the area of health services, environmental sanitation and openness in health care delivery system as a way out in ameliorating the plight of the poor residents of Ilorin metropolis to attaining good health.

In 2012, Olaniyan and Sunkanmi studied demand for child healthcare in Nigeria using the Nested Multinomial Logit Model (NMLM) estimation technique. The findings from the empirical result discloses the fact that education level of the house-hold-head which is a proxy for the child's education is an important determinant of health seeking behaviour of the child. Also the probability of seeking healthcare treatment is an increasing function of the household size. Again the number of days the child is sick or stops activities because of illness increases the chances of the house hold head demanding for health care on the child's behalf. On the contrary, per-capita house hold expenditure was found to be insignificant with respect to the chances of seeking healthcare. Furthermore, location of household residence, consultation fee, transportation cost and consultation time were all found to be an insignificant factor determining health care demand and facility choice for the child. The demand for child healthcare in Nigeria is an integral part of the demand for healthcare services utilization in Nigeria. A problem in demand for child health care is a problem of demand for health care services in Nigeria. Significant policy aimed at reducing the magnitude of infant mortality, inefficiency & ineptitude, wasteful, low quality services, unmotivated workforce will go a long way in increasing demand for health in Nigeria.

In Kwara State of Nigeria, Oladipo (2014) studied the utilization of health care services in rural and urban areas in order to determine the factors responsible for health care utilization in the state. Multivariate analytical method was employed on a four stage approach which comprises of need, predisposing, enabling and health services factors in explaining people's behaviour towards health care utilization. He defined the need factors as those variables such as disease, symptoms, health status and disability days. The predisposing factors are variables such as age, sex, religion, occupation, education, family size, ethnicity, culture, attitude, believe and health

education. Enabling factors are variables that promote the use of health services and include family income, proximity, availability, costs, motivational benefits, free health care, health insurance and third party influence. Health services factors are communications, bed supply, quality of care, outcome, treatment type at facility, loyalty to provider and ambulatory care. His study reveals that need factors are the most important factors that influence the utilization of health care services. The enabling factors also influences demand for healthcare services utilization from people. The predisposing factors were not found to strongly influence the use of health care by rural and urban dwellers in Kwara State. Health Services factors were least significant because if given the opportunity health care user will make a choice.

Aina, Olowa, Ibrahim and Asana (2015) carried out a research on the determinants of demand for health care services in rural Ekiti State. Using descriptive and multinomial logit model to analyze collected data reveals the empirical result that being man and head of the household increases the probability of higher demands for health care services than women household heads. Being married which represents 80.3% of the respondents increased the probability of demand for healthcare than the unmarried. Formal education representing 87.7% was found to be significant and increases demand for health care services. Rural households use dispensary/primary health care more than medicine stores/private clinics and other sources due to proximity, easy access and subsidies. Again they found out that waiting time increases the demand for health care services because of its positive coefficient in the regression and a result that waiting time is an indicator of quality service. An increase in age reduces demand for health in the rural area as household expenditure is negative. Furthermore, it was revealed that all explanatory variables were neither positive nor negative which implies a negative base to seeking for health care demand from general/teaching hospitals. It indicates non-availability of such facilities within the rural area. They concluded that demand for health from traditional/spiritual is a positive factor of sex, waiting time and instalment payment and negatively correlated to household expenditure. Recommendations were not left out in the area of increased access, health education, low cost and more health centres to the households in rural and slum areas.

Omonona, Obisesan and Aromolaran (2015) carried out a research on health care access and utilization among rural households in Nigeria and they used Ogun State as a case study. They use

primary data through the use of questionnaire and applied multistage sampling technique and analyzed using descriptive statistics. Their result showed that being male household head affects access and utilization of healthcare services positively than their women counterpart. Formal education and higher education of the household head is positively correlated to accessing and utilizing healthcare services. Occupation of household head is also a determine factor in utilization of health care services. The result also show that utilization of healthcare services increases with proximity to the health centre and decreases with large distance. Larger household size is an impediment to utilization of healthcare services, while accessibility to healthcare services is poor due to inadequate availability of trained medical personnel to the patients in the rural are.

Oluwatayo (2015) carried out a study about health service delivery system and household welfare status in urban South West Nigeria. Multistage random samplings were used to select the respondents. The healthcare in the study area includes hospitals/clinics, local doctors, spiritualists, patent medicine stores and self medication. Probit regression analysis was performed on the data to determine respondents' welfare status which is also proxy by poverty status of poor and non-poor. They mean the welfare status of a household to determine the demand for modern healthcare services. The empirical result reveals that higher age, income, educational level and asset value of respondents are positives determinant to seeking modern healthcare facilities while household size, location, primary occupation and gender of respondents were negatively related to it. The study examined health care services delivery system in the Southwest of Nigeria. By implication, the researcher is of the opinion that better welfare package for households is a precondition for demanding and patronizing modern health care facilities in Nigeria.

Riman and Akpan (2012) carried out a research on healthcare financing and health outcomes in Nigeria. It was to know the pattern of health financing and the factors responsible for health seeking behaviour of patients in Nigeria. The result shows that variables such as quality of healthcare, level of education, monthly revenue receipt from government are significant and are positively correlated to health status of clients. It was also revealed that out-of pocket expenditure, household income, distance to health facility and levels of health facility patronage were negatively significant to health status in Nigeria. The worst of the situation is that higher

out-of-pocket causes cut in consumption expenditure of the household, leads to patronage of local medicine vendors, over the counter purchase of drugs, self medication and visit to traditional healing houses. They suggest for effective monitoring of our healthcare system, review of revenue, involvement of donor agencies, community health insurance scheme and good policy formulation to our health care system.

Akin, David, Guilkey and Hazel (1995) carried out a research in Ogun State of Nigeria on quality of services and demand for health care in Nigeria. They were out to finding three major things from their research thus; (a) if price increase will culminate to a decline in health utilization or shift across treatment alternatives (b) if increase in price will lead to net increased revenue within the health system and (c) if the price increase will have an impact on the lower income group of the society in form of reduction in demand for health care utilization. The data they used were household data, data on prices and quality of care collected from facilities. Multinomial probit estimation was used by them along with collection of specific exogenous price variable directly from the providers. The result shows that the variable of interest to the study which is price and quality care are statistically significant which they said indicates that higher prices in any of the facilities will reduce demand for health and which, only increased quality care can increase usage.

From the foregoing therefore, it can be seen from the reviewed empirical works that there are factors that influences demand for health care services in some parts of Nigeria and other parts of the world. What is not clear is whether or not these factors influences demand for health in the three local government areas of Enugu metropolis of Enugu state, Nigeria hence the focus of this research project.

3.4 Limitations of Previous Studies

There have been several research works on the demand for health care services utilization with sometimes separate, distinct or particularly peculiar variable or variables in mind. Most of the ones conducted in developing countries ranges from elasticities of medical/health demand, elasticities of health demand among pregnant women, children, the elderly and some on low income earners. Others have studied determinants of health care demand, factors influencing

health care demand etc. They have made excellent contributions to the study and body of knowledge of health care demand. A number of researchers such as Oladipo (2014), Oluwatayo (2015), Omonona, Obisesan and Aromolaran (2015) and others have also used several or rather various econometric models to estimate and determine results of the variables. In Nigeria, studies of demand have been carried out to analyse demand for health care services in other regions and not very much in Enugu metropolis. Issues in this study pertain to specific population within a geographical entity called Enugu metropolis of Enugu state, Nigeria. This current study intends to describe, explain and determine the influencing factors that affect demand for health care services utilization in Enugu metropolis. The study is peculiar to the geographical entity of the three local government areas that makes up the Enugu town.

In addition, the study will contribute as a policy guide to the government of Enugu state of Nigeria, add value to existing literature, be of help for further studies on the subject matter and also broaden the information on health care delivery system amongst people of the metropolis, the state and Nigeria in general.

CHAPTER FOUR

METHODOLOGY

4.1 Analytical Framework

The study is based on Multinomial Logit Model (MNL) which is a variant of multinomial models. This is based on the work of Luce (1959) which considered the prediction of probabilities of several possible outcomes, mainly mutually exclusive events.

In a MNL model according to Muriithi (2013) an individual is assumed to be informed on specific attributes of all healthcare providers. Thus he is better placed to make choices that maximize his utility. Furthermore, the observed choice is determined by the differences in utility across alternatives rather than in levels of utility. Therefore, the model is specified below in equation 4.1.

$$P_i = \frac{e^{x_i \beta_j}}{\sum_{l=1}^m e^{x_i \beta_l}}, j=1, \dots, m \text{-----} (4.1)$$

Given that $\exp(x_i^j \beta) > 0$ these probabilities lie between 0 and 1 and sum over j to one (Cameron & Trivedi, 2005). Since $\sum_{j=1}^m P_{ij} = 1$, a restriction is needed to ensure model identification and the usual restriction is that $\beta_1 = 0$. To estimate the marginal effects on the choice probabilities of a change in the regressor for a given individual, the elasticity can then be computed by multiplying the marginal effect by the current regressor value and dividing by the probability. For the MNL model, it consider the effect on the j th probability of changing by one unit a regressor that takes the same value across all alternatives using the following equation.

$$\frac{\partial P_{ij}}{\partial x_i} = P_{ij} (\beta_j - \bar{\beta}_i) \text{-----} (4.2)$$

Where $\bar{\beta}_i = \sum_i P_{i|j} \beta_i$ is a probability weighed average of the β_i . It follows that the sign of the response is not necessarily given by the sign of β_i , unless $\beta_i > \beta_k$ for all $k \neq j$.

The analytical technique for this study comprise of the use of descriptive statistics such as frequencies and percentages. These shall be used to describe the level of utilization of health care services among the target population. This solves objective two. In addition, the study shall intensively employ econometric technique of MNL regression model to examine what influences the choice of health care service provider and demand for health care services among residence of Enugu metropolis. The model is basically used for prediction of probabilities of the various possible outcomes of categorically dependent variables given a set of regressor (either qualitative, or quantitative variables, or both).

According to the theoretical framework of this work, it considered the prediction of possibilities of several outcomes from mainly exclusive events. As individuals make choices that maximize their utility, it is pertinent to say that the probability that an alternative is chosen is equal to the probability of the utility of the chosen alternative which is equal to or greater than the utilities of the other alternatives in a choice set. Remember also that the individual chooses alternative that maximizes his utility. The study wants to know what that influences the respondent to demand for healthcare service from any choice of healthcare provider in Enugu metropolis. The dependent variable is demand for health care. The dependent variable is discrete and is measured as categorical variable which includes self treatment, government hospital, private hospital and traditional-health care. Self-treatment is the base category. In this regard the dependent variable takes the values 0, 1, 2 and 3. These are cases of choice that is particular to the respondent in respect to healthcare providers.

The independent variables for demand for health care services giving health care provider choice includes: age = age in years of the respondent, sex = gender and a dummy variable, Hh size = size or number of household members, sector = sector of residence (urban or rural), maristat = marital status of respondent, distance = distance of the health facility in kilometers to the respondent, edulev = education level of the household head, employstatu = employment status of the household head, wealth index = wealth index of the household head (proxied by income),

qualicare = quality of care obtained from health facility, waittime = time spent at the health facility waiting to be treated, user fee = cost or price of treatment in the visited health facility (part of choice attribute), trustindex = the degree to which respondents trusted health care providers, healthcond = this is the description of health condition of the respondent, transcost = reported cost spent accessing health care provider (a part of choice index also).

4.2 Model Specification

In the model specification, objective one will be captured through the use of multinomial logit model and objective two will be captured through the use of descriptive statistics.

The application of the multinomial logit model as an econometric approach is because of its specification as being consistent with the literature and allows for the identification of channels of health care services. According to Domencich and McFadden (1975), in Ichoku and Leibbrandt, (2003) the strength of the multinomial model is that the addition of a new alternative while decreasing the probability that an alternative is chosen does not alter the relative odds of the existing ones. In other words, the ratio of the odds of choosing facility 0 to the odds of choosing facility 1 does not change because of the addition of facility 2. Again, following other forms of linear regression, multinomial logistic regression uses predictor function $\log (P_{ij} / P_{il})$ to predict the probability that the observation has outcome j, of the following form given in equation (4). In this regard to this and fitting the log-odds of each of the category of the dependent variables against some baseline category as a linear function of covariates gives the equation as stated below:

$$\log (P_{ij} / P_{il}) = \psi_{0,j} + \psi_{1,j} X_{1,i} + \psi_{2,j} X_{2,i} + \dots + \psi_{n,j} X_{n,i} \dots\dots\dots (4.3)$$

i, represents the ith individual and j, is the jth category of the dependent variable. It is of importance that one of the categories be the baseline category (i.e. j = 1). In this regard each of the covariates will now have j – 1 coefficients. The decision concerning the category to set as baseline is arbitrary and does not affect the suitability of the model but only that of interpretation. The regression coefficient that is associated with the nth explanatory variable and the jth outcome is $\psi_{n,j}$. The coefficients and explanatory variables in the multinomial logistic

regression are normally grouped into vectors of size $n + 1$, so that the predictor function can be written more compactly as:

$$\log \left(P_{ij} / P_{i1} \right) = \psi_j X_i \dots \dots \dots (4.4)$$

Where ψ_j the set of regression coefficients is associated with outcome j , and X_i is the explanatory variables that is associated with observation i . Nevertheless, itemizing the variables in the model and stating them explicitly in a functional form yields the equation as below:

$$Hc \text{ provider} = f(\text{age, sex, hhsiz, sector, maristatus, distance, edulevel, employstatu, wealthindex, quaticare, waittime, user fee, trustindex, healthcond, transcost}) \dots \dots (4.5)$$

where Hc provider = self treatment, public hospital, private hospital, traditional healers. The full definitions of the variables are stated below:

Table 4:1: Definition of Variables

Variable names	Definition
Hc provider	Self treatment, government hospital, private hospital, traditional healthcare provider.
Age	Age in years of the sick person (0 = Below 18years, 1 = 18 – 45 years, 2 = 46 – 65years, 3 = Above 66years).
Sex	Gender or sex of household heads (0 = female, 1 = male).
Hhsiz	Size or number of household members (0 = 2 -5 members, 1 = above 6 members).
Sector	Sector of residence (0 = Suburb, 1 = Slum, 2= Urban)
Maristatus	Maristatus of respondent (0 = single, 1 = Married, 2 = divorced/widowed)
Distance	Distance to the health facility in kilometers (0 = less than 1km, 1 = 2 -5kms, 2 = 6-10kms, 3 = more than 10kms)
Edulevel	Education level of the household head 0 = No formal educ (1 = primary level, 2 = secondary level, 3 = tertiary level)
Employstatu	Employment status of the household head (0 = unemployed, 1 = Employed)
Wealthindex	Indices used to know household head’s wealth (proxied by income) 0 = ₦1000 – ₦ 50, 000, 1 = ₦51, 000 – ₦ 100, 000, 2 = ₦101, 000 – ₦150, 000, 3 = ₦151,000 and above.
Qualhcare	Quality of care obtained from health facility (0 = bad, 1 = fair, 2 = Good, 3 = Excellent.
Waittime	Time spent at the health facility waiting to be treated (0 = less than 1 hour, 1 = between 2-3 hours, 2 = 3hours and above.
User fee	Cost or price of treatment in the visited health facility. This includes consultation fee, card fee and cost of drug. (0 = ₦

	1000 – ₦2000, 1 = ₦3000 – ₦5000, 2 – ₦6000 and above.
Trustindex	The degree to which respondents trusted health care providers (0 = No trust, 1 = Less trust, 2 = more trust)
Health cond.	This is the description of health condition of the respondent (0 = Not sick, 1 = sick, 2 = very sick, 3 = critically sick.
Transcost	How much spent on transport to access the nearest health care provider (0 = less than ₦500, 1=₦600 - ₦1000, 2 = ₦1100 – ₦1500, 3 = ₦1600 and above.

To express this in mathematical form will yield as follows;

$$\begin{aligned} \text{Log}(\text{hcprovider}) = & \psi_0 + \psi_1 \text{age} + \psi_2 \text{sex} + \psi_3 \text{hhsiz} + \psi_4 \text{sector} + \psi_5 \text{maritalstatus} + \psi_6 \text{distance} \\ & + \psi_7 \text{edulevel} + \psi_8 \text{employstatu} + \psi_9 \text{wealthindex} + \psi_{10} \text{qualicare} + \psi_{11} \text{waittime} + \psi_{12} \\ & \text{user fee} + \psi_{13} \text{trustindex} + \psi_{14} \text{healthcon} + \psi_{15} \text{transcost} \dots \dots \dots (4.6) \end{aligned}$$

The variables of the model can be stated explicitly in econometric form as;

$$\begin{aligned} \text{Log}(\text{hcprovider}) = & \psi_0 + \psi_1 \text{age} + \psi_2 \text{sex} + \psi_3 \text{hhsiz} + \psi_4 \text{sector} + \psi_5 \text{maritalstatus} + \psi_6 \text{distance} \\ & + \psi_7 \text{edulevel} + \psi_8 \text{employstatu} + \psi_9 \text{wealthindex} + \psi_{10} \text{qualicare} + \psi_{11} \text{waittime} + \psi_{12} \\ & \text{userfee} + \psi_{13} \text{trustindex} + \psi_{14} \text{healthcon} + \psi_{15} \text{transcost} + \mu_i \dots \dots \dots (4.7) \end{aligned}$$

From equation (4.7) $\psi_1, \psi_4, \psi_5, \psi_6, \psi_7, \psi_8, \psi_9, \psi_{10}, \psi_{13}$ and ψ_{14} were expected to be positive, while $\psi_3, \psi_{11}, \psi_{12}$ and ψ_{15} were expected to be negative. Lastly, the parameter for sex, ψ_2 could be positive or negative. Positive parameters implied that given more of the variable, households tends to choose more of different health care providers to self treatment and vice-à-vice for negative parameters.

4.3 The Study Area

This study was carried out in Enugu metropolis and environs which consists of Enugu North, Enugu South and Enugu East Local Government Areas of Enugu State in the South-East of Nigeria. Enugu metropolis is densely populated because it is made up of three local government areas with the presence of many higher institutions, markets, government institutions, private businesses as well as host to so many international organizations. Enugu city is the capital of Enugu state as well as the capital of South-East geopolitical zone of Nigeria. It is predominantly a Christian populated area with large chunk of them as Roman Catholics and Pentecostals and with few traditionalists and atheists amongst other religion worshippers. They are mainly of the

Igbo ethnic group alongside other tribes and foreigners who have settled for one business or another. Enugu has endowed cultural heritage and traditional social structure that is egalitarian. They are also western in nature.

4.4 Data Collection

A multi-stage random sampling technique was employed in the collection of data. This is because of the huge and disperse nature of the population of the city of Enugu. Twenty (20) households were randomly selected from each of the 26 selected locations plus five (5) health providers each from the three local government areas that makes up the Enugu metropolis. This amounts to fifteen health care providers. The total number of distributed questionnaire is 535. The locations covered are thus; Uwani, Achara Layout, Amechi, Abakpa Nike, Emene, Coal Camp, GRA, Iva Valley, Obiagu, Garki, Agbani Road, Ziks Avenue, Old Park, New Haven, Chime Avenue, Ogu Road/Asata Area, Artisan/Loco Quarters, Maryland, Enugu Ngwo, Trans-Ekulu, Independence Layout, Ugwuaji, Akwuke, Ugbene, Monarch Avenue, Goshen Estate/New Artisan.

Questionnaires were administered in suburb, urban and slum area household residents of the areas mentioned in Enugu town and to some of the health care providers within the town's three local government areas. A total of 520 questionnaires were distributed to households while a total of 15 questionnaires were distributed to healthcare providers. Altogether, a total of 535 distributed questionnaires to households and health care providers is being considered for analysis.

4.5 Method of Estimation

The study adopts the use of the multinomial logit model (MNL) estimation in an attempt to determine the factors that influences health care demand in Enugu state of Nigeria given health care provider choices. The use of the multinomial logit model is justified by the fact that this is an extension of the binary logit model in the case of dependent variable with several unordered categories. According to McFadden (1981), the multinomial logit (MNL) can under certain conditions be derived from the latent variable model by specifying the distribution error as Independently Identically Distributed (IID) with type I extreme value distribution. Since the

alternatives are completely dissimilar the multinomial model can be applied and again since the error terms in the choices are independently distributed the multinomial logit model would be appropriate (Ichoku and Leibbrandt, 2003).

For the purpose of achieving identification, it is pertinent to note that the equation was modified to set one of the coefficients to zero. The multinomial has three options thus; self care (option 0), public hospital (option 1) private hospital (option 2) traditional healers (option 3). The other variables in the models are relative variables that facilitate the estimation of the factors that influences demand for health care services.

4.6 Estimation Problem

The fact that the study's data depends largely on information supplied by households where people may not give accurate or correct information while filling in the questionnaire form, collected data may not reflected the true information on demand for health care service delivery. Again, while there may be selection biases that could be found in the regression due to existence of two or more episodes of sickness and or visits to the hospital is reported as one. It will be worthwhile to note that while several studies reported selection problem, they nonetheless ignored it. The gravity of the seriousness of this error is still not clear and should be treated as such.

4.7 Data Source

The data come from questionnaire that were distributed to households living in the suburb, urban and slum areas and to some healthcare providers within the three local government areas that made up Enugu metropolis. 520 questionnaires were distributed amongst households while 15 were distributed to some of the health care providers. The total of 535 questionnaires which gives information both from the households and health providers were used for estimation analysis. Only 432 questionnaires were retrieved from the respondents. The purpose of the choice of data is to use the questionnaire survey method to extract more and first hand information about the variables to be used in the estimation, unlike previous surveys carried out.

4.8 Ethical Clearance

In line with the ethnics of health studies in Nigeria, the researcher applied for ethical clearance which was granted by the Enugu State Ministry of Health, Enugu. This implied the study is in line with research ethics in health and was recognized by Enugu State health authorities (See Appendix 2, page 107).

CHAPTER FIVE

PRESENTATION AND INTERPRETATION OF FINDINGS

5.1 Introduction to Data Analysis

This chapter presents and interprets findings of the study. It comprises of two sections. Each section addresses an objective of the study stated in chapter one. Section one has to do with factors that influences demand for health care services amongst households living in Enugu urban area of Enugu State. Section two presented and discussed result on level of utilization of health care facilities amongst households living in Enugu urban area of Enugu State. Before the presentation and discussing of results, Table 5.1 and 5.2 presented description of variables and summary statistic of the variables respectively.

Table 5.1: Description of variables

Variable Name	Variable Label
Hcprovider	healthcare provider (self treatment, government hospital, private hospital & traditional healthcare)
Age	age of the sick person
Distance	distance to health facilities in km
Edulevel	educational level
Employstatus	employment status
healthcond	health condition of respondent
hhsiz	number of household members
Incomelev	income level
Maristatus	marital status
Qualhcare	quality of care obtained from health facility
sector	type of place of residence
Sex	sex of household head
transcost	transport cost to nearest healthcare provider
trustindex	degree of trust on healthcare provider
Userfee	cost of treatment in health facility
Waittime	time spent at health facility before treatment
age1	18-45 years
age2	46-65 years
age3	above 65 years
distance1	2-5kms
distance2	6-10kms
distance3	above 10kms
educlevel1	Primary
educlevel2	Secondary
educlevel3	Tertiary
healthcond1	Sick
healthcond2	very sick
healthcond3	critically sick

hhsizel	6-9 members
hhsizel2	above 9 members
Incomelev	N51000-N100000
incomelev2	N101000-N150000
incomelev3	above N150000
maristatus1	Married
maristatus2	divorced/widowed
qualhcare1	Fair
qualhcare2	Good
qualhcare3	Excellent
sector1	Urban
sector2	Slum
transcost1	N600-N1000
transcost2	N1100-N1500
transcost3	above N1500
trustindex1	less trust
trustindex2	more trust
userfee1	N3000-N5000
userfee2	above N5000
waittime1	1-3 hours
waittime2	above 3 hours

Source: Researcher's computation

5.2 Factors Influencing the Demand for Healthcare Services amongst Households in Enugu Metropolis

The multinomial logit regression technique was adopted to analyse factors affecting the demand for healthcare provider's choice among households in Enugu metropolis. The analysis was carried out using STATA 13 econometric software. The choice of healthcare provider is a categorical variable with four options which include self medication (that is, no healthcare provider), government hospital, private hospital and traditional healthcare provider. Self medication was the reference category or the bases for comparison for effect of determinants of demand for healthcare on other options of healthcare provider. Each of the determinant or factor was analysed with respect to the three healthcare providers option (government hospital, private hospital and tradition healthcare providers) while comparing them with the reference category. The table below contains the odds ratio (coefficient), p-value of z-statistic and 95% confidence interval.

Table 5.2: Determinants of healthcare services amongst households in Enugu metropolis

Healthcare provider	Government Hospital				Private Hospital				Traditional Healthcare			
	Determinants	Coef.	p> z	95% C.I	Coef.	p> z	95% C.I	Coef.	p> z	95% C.I		
Sex												
<i>Female</i>	0.00				0.00				0.00			
<i>Male</i>	-0.31	0.45	[-1.12	0.49]	-0.21	0.60	[-0.99	0.57]	-0.34	0.49	[-1.31	0.62]
Employment status												
<i>Unemployed</i>	0.00				0.00				0.00			
<i>Employed</i>	0.06	0.88	[-0.78	0.90]	-0.09	0.83	[-0.89	0.71]	0.21	0.68	[-0.80	1.22]
Sector												
<i>Rural</i>	0.00				0.00				0.00			
<i>Urban</i>	0.47	0.32	[-0.46	1.40]	0.41	0.36	[-0.47	1.30]	0.24	0.68	[-0.88	1.35]
<i>Slum</i>	0.42	0.44	[-0.64	1.49]	0.33	0.52	[-0.68	1.35]	0.43	0.49	[-0.79	1.66]
Marital status												
<i>Single</i>	0.00				0.00				0.00			
<i>Married</i>	0.86	0.05	[0.00	1.71]	0.86	0.04	[0.04	1.68]	1.08	0.04	[0.04	2.11]
<i>divorced/widowed</i>	0.24	0.72	[-1.06	1.53]	1.07	0.08	[-0.13	2.27]	0.12	0.88	[-1.43	1.67]
Education level												
<i>no formal education</i>	0.00				0.00				0.00			
<i>Primary</i>	1.15	0.06	[0.05	2.35]	0.78	0.19	[0.39	1.94]	0.61	0.41	[0.83	2.04]
<i>Secondary</i>	0.16	0.83	[1.30	1.62]	0.25	0.73	[-1.17	1.67]	0.74	0.39	[-0.94	2.41]
<i>Tertiary</i>	1.47	0.02	[0.27	2.67]	1.26	0.04	[0.09	2.43]	0.66	0.39	[0.85	2.16]
Income level												
<i>N1000-N50000</i>	0.00				0.00				0.00			
<i>N51000-N100000</i>	0.22	0.66	[-0.75	1.20]	0.23	0.64	[-0.71	1.17]	0.48	0.43	[-0.72	1.68]
<i>N101000-N150000</i>	0.28	0.62	[-0.83	1.40]	0.56	0.32	[-0.53	1.65]	0.26	0.72	[-1.15	1.68]
<i>above N150000</i>	0.20	0.75	[-1.01	1.41]	0.79	0.18	[-0.38	1.96]	0.81	0.28	[-0.65	2.27]
Distance												
<i>less than 1kms</i>	0.00				0.00				0.00			
<i>2-5kms</i>	0.63	0.21	[-0.36	1.61]	0.57	0.23	[-0.36	1.51]	0.45	0.44	[-0.68	1.59]
<i>6-10kms</i>	-0.02	0.97	[-1.06	1.03]	-0.47	0.37	[-1.48	0.55]	-0.79	0.24	[-2.11	0.54]
<i>above 10kms</i>	1.21	0.13	[-0.35	2.76]	0.16	0.84	[-1.39	1.71]	-0.07	0.94	[-1.93	1.79]
Age												
<i>below 18 years</i>	0.00				0.00				0.00			
<i>18-45 years</i>	-0.32	0.57	[-1.43	0.79]	-0.09	0.87	[-1.16	0.98]	-0.06	0.93	[-1.34	1.22]
<i>46-65 years</i>	0.29	0.63	[-0.90	1.48]	0.10	0.86	[-1.06	1.27]	-0.28	0.70	[-1.70	1.14]
<i>above 65 years</i>	-0.32	0.62	[-1.58	0.95]	0.05	0.93	[-1.14	1.25]	0.49	0.50	[-0.94	1.92]
Household size												
<i>2-5 members</i>	0.00				0.00				0.00			
<i>6-9 members</i>	0.30	0.49	[-0.55	1.16]	0.11	0.79	[-0.71	0.94]	0.85	0.12	[-0.21	1.91]
<i>above 9 members</i>	-0.17	0.77	[-1.28	0.94]	-0.34	0.52	[-1.40	0.71]	0.91	0.16	[-0.37	2.20]

Healthcare provider	Government Hospital				Private Hospital				Traditional Healthcare			
	Determinants	Coef.	p> z	95% C.I	Coef.	p> z	95% C.I	Coef.	p> z	95% C.I		
Transport cost												
<i>Less than N600</i>	0.00				0.00				0.00			
<i>N600-N1000</i>	0.16	0.74	[-0.77	1.08]	0.50	0.28	[-0.40	1.39]	1.12	0.05	[0.00	2.24]
<i>N1100-N1500</i>	-0.53	0.38	[-1.70	0.65]	-0.40	0.49	[-1.53	0.73]	0.77	0.26	[-0.57	2.12]
<i>above N1500</i>	-0.47	0.59	[-2.22	1.27]	0.39	0.62	[-1.17	1.96]	1.37	0.17	[-0.58	3.32]
Service charge												
<i>N1000-N2000</i>	0.00				0.00				0.00			
<i>N3000-N5000</i>	0.78	0.12	[-0.20	1.76]	1.12	0.02	[0.17	2.07]	1.31	0.03	[0.14	2.47]
<i>above N5000</i>	0.05	0.91	[-0.83	0.93]	0.12	0.78	[-0.73	0.98]	0.20	0.72	[-0.88	1.28]
Quality of care												
<i>Poor</i>	0.00				0.00				0.00			
<i>fair</i>	0.28	0.60	[-0.78	1.34]	-0.13	0.80	[-1.14	0.88]	-0.62	0.31	[-1.83	0.58]
<i>Good</i>	0.06	0.92	[-1.04	1.16]	-0.15	0.78	[-1.20	0.89]	-0.68	0.29	[-1.93	0.57]
<i>Excellent</i>	0.96	0.26	[-0.70	2.63]	0.71	0.38	[-0.89	2.31]	-1.01	0.37	[-3.24	1.22]
Waiting time												
<i>less than 1 hour</i>	0.00				0.00				0.00			
<i>1-3 hours</i>	0.81	0.07	[-0.06	1.68]	0.63	0.14	[-0.21	1.47]	1.28	0.02	[0.20	2.37]
<i>above 3 hours</i>	0.31	0.56	[-0.72	1.34]	0.36	0.46	[-0.61	1.34]	0.73	0.25	[-0.52	1.98]
Level of trust												
<i>no trust</i>	0.00				0.00				0.00			
<i>less trust</i>	-0.03	0.97	[-1.35	1.30]	0.19	0.77	[-1.10	1.47]	-0.79	0.29	[-2.24	0.66]
<i>more trust</i>	0.03	0.96	[-1.25	1.32]	0.13	0.84	[-1.12	1.38]	-0.43	0.54	[-1.80	0.95]
Health condition												
<i>not sick</i>	0.00				0.00				0.00			
<i>sick</i>	-0.37	0.37	[-1.17	0.44]	-0.59	0.14	[-1.36	0.18]	-0.05	0.91	[-0.99	0.88]
<i>very sick</i>	0.23	0.74	[-1.13	1.60]	-0.25	0.72	[-1.61	1.11]	-0.19	0.83	[-1.97	1.59]
<i>critically sick</i>	12.95	0.99	[-3.22	3.24]	-1.00	1.00	[-3.61	3.60]	-2.31	1.00	[-4.39	4.38]

Source: Researcher's computation

Sex (gender)

As a socioeconomic determinant, sex is categorized into two (female and male). There is one odds ratio in the three healthcare providers' choices. Each described the relationship with the reference category. The reference category is the odd of utilizing healthcare services among female household heads. The result shows that odds ratio for males who utilize government hospital, private hospital and traditional healthcare as against self medication are -0.31, -0.21 and -0.34. It shows that males are about 0.31 times less likely to utilize government hospital than

female counterparts on average. This further implied that males are more likely to choose self medication than females. The result is however, not significant as estimated p-value of z-statistic was 0.45 which is relatively higher than 0.05. Similar scenario was found to be true in the case of households that utilize private hospitals and traditional healthcare providers. The odds in favour of choosing either private hospital or traditional healthcare provider among males are about 0.21 times and 0.34 times less than that of females. Even though the differences are statistically insignificant given their corresponding p-values (0.06 and 0.49), the outcome suggests that males tends to utilize government hospitals, private hospital and traditional healthcare providers less than females in Enugu metropolis. Hence, males would likely engage more on self medication than females within the area.

The result agrees with Katie (2006) who argued that demand for healthcare service provider can be influenced by demographic factors such as sex and age. It also includes other determinants like health status, economic factors, and physician factors among others. According to the study, women tend to utilize healthcare facilities more than men due to reproductive health and child-bearing issues which subjects women to health facilities more than men on average. It is important to note that the difference in utilization of various healthcare service providers due to gender (sex) is not statistically significant in this study. Hence it is assume that being either male or female cannot statistically explain choice of patronage of given healthcare provider say, government hospital, private hospital or traditional healthcare services.

Employment Status

Employment status was grouped into two with 'unemployed' members of the household as reference category. Household heads who are employed have the odd of about 0.06 more likely to choose government hospital than self medication in comparison to those who are unemployed. Similarly, the coefficient of employed individuals in preference for private hospital and traditional healthcare are 0.09 and 0.21 respectively. It meant that employed members of household are about 0.09 times more likely to choose private hospital than to resort to self medication. The result further shown that employed members of the household are 0.21 times more likely to utilize traditional healthcare service providers compared to unemployed members of households in Enugu metropolis. The implication is that employment status is a factor that

determines the choice of healthcare provider among households in Enugu metropolis. Even at that, the variable is not a significant factor because none of its estimated p-values (0.88, 0.83 and 0.68) is less than 0.05.

Despite the fact that employment status conformed to expectation such that respondents with employment utilize more of the services of government hospital, private hospital and traditional healthcare services than those without employment, the observed insignificant impact of employment status on choice of healthcare provider remains surprising because preference for any of the choices above self medication is partly dependent on ability to pay which is related to employment status of the respondents. However, according to Ugal, Ushie and Ingwu (2012), conventional ability to pay does not always reflect individuals' ability to pay in most African countries due to their extended family system which often supports individuals in time of need. Hence the result suggests that other factors could be influencing the choice for healthcare provider outside employment status and ability to pay of the individuals concerned.

Sector (type of place of residence)

Among the three types of residence of households, rural dwellers are the reference category. The log of odds that a respondent has a government hospital as his healthcare provider with respect to those that preferred self medication regarding their sector of residence is 0.47 (urban) and 0.42 (slum). It implies that households that reside in urban and slum areas are respectively 0.47 times and 0.42 times more likely to choose government hospital as their healthcare providers than their counterparts in the rural areas in Enugu metropolis. Similarly, the log of odds that a respondents has a private hospital as his healthcare provider compared to those that preferred self medication given their sector of residence is 0.41 (urban) and 0.33 (slum). This outcome suggests that respondents that reside in the rural area in Enugu metropolis are less likely to choose private hospital as their healthcare providers than those at the urban and slum areas in the city. At the same time, those who choose traditional healthcare providers as against those that choose self medication based on their area of residence is 0.24 (urban) and 0.43 (slum). The result shows that households that reside in urban and slum areas still have the odds of 0.24 times and 0.43 times more likely to choose traditional healthcare providers than self meditation when compared to those living in the rural areas. It is important to note that sector of residence is not a significant

determinant of choice of healthcare provider in this study, because none of the estimated p-values of z-statistic is less than 0.05 for the three choices of healthcare providers of government hospital (0.32 & 0.44), private hospital (0.36 & 0.52) and traditional healthcare provider (0.68 & 0.49).

Even though that impact of sector of residence is not significant as was found above, the result indicated that type of place of residence of household influences their choice of healthcare provider. In this case, households in rural areas were found to choose more of self medication than government hospital, private hospital or traditional healthcare providers. This pattern of choice based on place of residence was once found by Ndie and Idam (2013) when they studied the demographic characteristics of women on the utilization of maternal health services at Abakiliki, Ebonyi State. The result could relate to the fact that rural dwellers often faced with the challenges of inadequate and poor healthcare services in Nigeria. As a result, they are likely to resort to self mediation as against patronizing hospitals, especially when the ailment was not considered critical and or life-threatening.

Marital Status

For marital status there are three categories which include single, married and divorced/widowed. Respondents who are single are the based category. The result shows that the odds for choosing government hospital, private hospital and traditional healthcare providers as against self medication given that the respondent is married are 0.86, 0.86 and 1.08 respectively. This shows that respondents who are married are more likely to choose government hospital, private hospital or traditional healthcare providers than respondents who are single in Enugu metropolis. Surprisingly, this identified difference was found to be statistically significantly different from zero as corresponding p-value of z-statistic (0.05, 0.04 and 0.04) were at least 0.05 or less. It indicates that married couples can easily afford the services of government hospital, private hospital or traditional healthcare providers more than respondent who are single. In a related development, the odds of choosing government hospital, private hospital or traditional healthcare provider in place of self medication as a result of the respondent being divorced or widowed are sequentially 0.24, 1.07 and 0.12. The implication of this result is that respondent who are divorce or widowed have about 0.24 times, 1.07 times and 0.12 times the chances of

choosing government hospital, private hospital and traditional healthcare providers more than respondents who are single. This time, the difference is not significant given corresponding p-value of z-statistic (0.72, 0.08 and 0.88) for the three estimated choices of healthcare provider.

Implication of the study is that respondents who are married, divorced or widowed are more likely to choose government hospital, private hospital and traditional healthcare providers than their counterparts who are single. This difference in choice of healthcare provider as relates to marital status could be related to the ability-to-pay of the individuals since those who are in marital union or those who have married and divorced or widowed may likely be employed, or acquired wealth which will help them offset medical bills of healthcare providers than those who are single and mostly unemployed.

Education Level

Education level was grouped into four with 'no formal education' as reference category. The result shows that respondents who have primary education are on average 1.15 times more likely to utilize government hospital than those with no formal education. Similarly, respondents with primary education also utilize private hospital and traditional healthcare services 0.78 times and 0.61 times more than those with no formal education qualification. However, this observed difference was not statistically significant as its corresponding p-values of 0.06, 0.19 and 0.41 were all above stipulated 0.05 level of significance. Implication of this result remains that while basic education is necessary for knowledge of healthcare service utilization, such knowledge remains insufficient as the knowledge gap between respondents with primary education and those with no formal education was found to be insignificant. This is however not significant as 0.087 p-value is not less than 0.05. Again, respondents with secondary education have about 0.16 times, 0.25 times and 0.74 times the odd of utilizing government hospital, private hospital and traditional healthcare services on average more than those with no formal education respectively. The corresponding p-values of 0.83, 0.73 and 0.39 show that there is no significant difference between respondents with secondary education and those with no formal education with respect to choice of healthcare provider.

For respondents with tertiary education, it was found that they utilized government hospital about 1.47 times more than those with no formal education. Unlike the other categories, this difference in utilization of government hospital is statistically significant given its p-value of 0.02 which is less than 0.05. In a related development, it was also found that respondents with tertiary education utilized private hospital and traditional healthcare services about 1.26 times and 0.66 times respectively more than those with no formal education. While the difference in utilization of private hospital is statistically significant with p-value of 0.04, the difference in utilization of traditional healthcare services was found to be insignificant as its corresponding p-value is 0.39. The result agrees with Timothy et.al (2014) who ascertains that educational attainment creates the needed awareness in the society. This implies that individual with higher educational attainment tends to patronize healthcare facilities more than those with less educational attainment and those with no formal education.

Income Level

Income level has four categories with respondents of income level ₦1000 – ₦50000 as the base category. The result shows how income of respondents determines the choice of healthcare provider among residence of Enugu metropolis. The estimate shows that respondents with income of ₦51000 – ₦100000 have about 0.22 times, 0.23 times and 0.48 times the odd of choosing government hospital, private hospital and traditional healthcare services respectively more than those with ₦1000 – ₦50000 on average. Given the observed p-values of 0.66, 0.64 and 0.43 for the three choices of healthcare providers which is greater than 0.05, it implies that the income difference is not statistically significant. Hence, the income difference does not effectively determine whether the household chooses any of government hospital, private hospital or traditional healthcare over self-treatment in this study. Furthermore, the result shows that respondents with income level ₦101000 – ₦150000 are more likely to choose government hospital, private hospital and traditional healthcare services by about 0.28 times, 0.56 times and 0.26 times respectively than respondents with income level ₦1000 – ₦50000 on average. Although these differences were statistically insignificant due to its high p-values of 0.62, 0.32 and 0.72, the result simply indicates that income plays a role in the choice of healthcare provider among residence of Enugu metropolis. Similar to the result of the above two groups, respondents with income level above ₦150000 were sequentially found to choose government hospital,

private hospital and traditional healthcare services about 0.20 times, 0.79 times and 0.81 times more than those with income of ₦1000 – ₦50000 on average. Again, none of the coefficients is statistically significant as their p-values were 0.75, 0.18 and 0.28 respectively.

This result does not tally with the findings of Oluwatayo (2015) who ascertain that income is a very important determinant of choice of healthcare providers among households in South West Nigeria. The only point of agreement in this study remains that income influences the choice of healthcare provider, but its impact remains insignificant. Further investigation of the result shows that effect of income was felt more in the case of private hospital and traditional healthcare providers than it was in the case of government hospital. The reason could be the subsidize services at government hospital which encourage both poor and rich households to patronize them.

Distance

Distance measures the distance of the household from health facilities in kilometres, with households staying less than 1 kilometre as the base category. The result shows that households that live 2-5kms from healthcare facilities are likely to utilize government hospitals, private hospitals and traditional healthcare services about 0.63 times, 0.57 times and 0.45 times more than those that stay less than 1km from the facilities. This result is however insignificant as none of its p-values (0.21, 0.23 and 0.44) are significant. Contrary to this outcome, respondents who stay 6-10kms away from healthcare facilities were less likely to patronize government hospital, private hospital and traditional healthcare providers by about 0.02 times, 0.47 times and 0.79 times respectively than those that stay less than 1km from the facilities. It suggests that effect of distance from healthcare facilities is not significant due to high p-values (0.97, 0.37 and 0.24) associated with the result. The result further shows that respondents who leave above 10kms from health facilities often choose government hospital, private hospital and traditional healthcare about 1.21 times, 0.16 times and 0.07 times less than households that leave less than 1km from health facility. Again, there is no significant effect of above 10kms distance on the choice of healthcare providers in this study as it recorded p-values of 0.13, 0.84 and 0.94. These values were all greater than stipulated 0.05 level of significance.

Ordinarily, distance to healthcare facility was expected to exert significant impact on choice of healthcare provider given the cost of transportation and time factor involved in choosing providers that are far away from the household. In its findings, Oluwatayo (2015) observed that distance from healthcare facility is a significant determinant of choice of healthcare providers in the South West Nigeria. However, this result reflects the reality of the area of study which is Enugu metropolis. In reality, the area of study occupies a small landscape known as Enugu city. Hence, one can easily transport oneself to any healthcare provider within the city at little cost. This fact contributes to the reason for insignificant of distance to healthcare provider in this study.

Age

As an important demographic factor, age of respondents could be vital in the choice of healthcare providers among households. Age was grouped into four with respondents below 18 years as reference group. Respondents aged 46-65 years were found to choose government hospital about 0.29 times more than those below 18 years, while those aged 18-45 years and above 65 years were less likely to choose same government hospital as healthcare providers by about 0.32 times than respondents below 18 years. Although it appears that respondents between age 46-65 years patronize government hospital more, followed by those below 18 years and lastly by those between 18-45 and those above 65 years. None of the differential coefficients is statistically significant as its p-values are 0.57, 0.63 and 0.62. In related outcome under private hospital as healthcare provider, the result shows that respondents aged 46-65 years and those above 65 years choose private hospital about 0.10 times and 0.05 times respectively more than respondents below 18 years. It was only respondents between the ages of 18-45 years were less likely to choose private hospital about 0.09 times less than those below 18 years. Yet again, these differences are insignificant given p-values of 0.87, 0.86 and 0.93. As expected, it was only respondents aged above 65 years that are more likely to choose traditional healthcare providers about 0.49 times more than respondents below 18 years. This observed difference was not statistically significant as its corresponding p-value was 0.50. On the other hand, respondents aged 18-45 years and 46-65 years have 0.06 and 0.28 the odd of choosing traditional healthcare provider less than those below 18 years. Once again, the difference is statistically insignificant given its p-values of 0.70 and 0.50 respectively.

The trend choice of healthcare provider based on age group shows that apart from respondents aged 18-45 years who have the odd of choosing any of the three healthcare providers less than the reference group (below 18 years), the remaining two groups have no definite pattern of choice of providers in the study. It can be inferred that respondents between ages of 18-45 years are most likely to engage in self-medication than the rest since they are less likely to choose any of government hospital, private hospital or traditional healthcare providers than the other groups. By extension, this group represents the most active age group and majority of the workforce in every economy. While age group 46-65 years was found to mostly choose government and private hospital as their providers, the most advance group (above 65 years) on their part chooses traditional healthcare providers more than any other group in the study.

Household Size

Household size measures the number of people in a given household. With its three groups, household with 2-5 members constitutes the base category. From the result, households with 6-9 members have the odd of utilizing government hospital 0.30 times more than those of 2-5 members. For private hospital, they (6-9 members) have the odd of utilizing it about 0.11 times more than the households with 2-5 members. Furthermore, it was found that households with 6-9 member tends to utilize traditional healthcare services to the tune of 0.85 times more than households with 2-5 members. It is however important to note that these difference is statistically not significant due to observed high p-values of 0.49, 0.79 and 0.12 respectively for the three healthcare providers. On the other hand, households with above 9 members were found to utilize government hospital and private hospital about 0.17 times and 0.34 times less than households with 2-5 members. In contrast to outcome of government and private hospitals, households above 9 members have the odd of utilizing traditional healthcare services 0.91 times more than their counterpart with 2-5 members. Once again, this difference in utilization of healthcare providers among household with above 9 members was found to be statistically insignificant from zero as its p-values are 0.77, 0.52 and 0.16 respectively.

The implication is that household size contributes to demand for healthcare providers in Enugu metropolis, but this contribution appears to be very little in this study. From observed trend in the study, households with larger members tend to utilize government and private hospitals less than

their counterparts with fewer members. They preferred the services of traditional healthcare providers compared to households with fewer members. The result is understandable from the financial cost perspective as both government and private hospitals are relatively more expensive to secure their services than those of traditional healthcare providers.

Transportation Cost

Transportation cost measures the amount of money spent by the patient on transportation in the course of visiting chosen healthcare provider. It has four categories with patients that spend less than N600 as the base category. The result shows that patients who spend N600-N1000 are about 1.12 times more likely to choose traditional healthcare than those that spend less than N600, and this difference is statistically significant at $p < 0.05$. Similarly, patients in this income category are about 0.50 times and 0.16 times more likely to choose private and government hospitals than those that spend less than N600. These differences were however not significant at $p < 0.05$. For patients who spent N1100-N1500, they were on average found to be about 0.77 times more likely to choose traditional healthcare than those that spend less than N600. On the contrary, patients on this transport cost group were found to be about 0.53 times and 0.40 times less likely to choose government and private hospitals respectively. It is important to note that these differences were not significant at $p < 0.05$ for any of the healthcare providers' choice. Lastly, patients who spent above N1500 on transportation are about 1.37 times and 0.39 times more likely to choose traditional healthcare providers and private hospitals respectively than patients who spend less than N600 on average.

Although the result shows that patients who spent more on transportation to healthcare facilities tends to prefer traditional healthcare givers on average to self-medication, the difference in their preference were found to be insignificant across various categories of cost of transportation except the group that spend N600-N1000. This category of hospital patients strongly prefer traditional healthcare providers in comparison to those that spend less than N600. Part of the reason remains that the farther the clients are from health facilities, the more closer they are to traditional herbalists who can easily attend to their health needs. Hence, there is little incentive to pay high transportation fare to assess government and private hospitals in the largely urban areas. In a similar way, these households tend to be better off with patronage of tradition care givers

compare to the more risky self-medication alternative. The result for households that spend more on transportation and choose either government or private hospital was found to be a little different from those that choose traditional caregivers. They manifested evidence of both being more likely and less likely to choose government and private hospitals over self-medication as their transportation cost increases. Despite the fact that their preferences were found to be statistically insignificant, it can be deduced that most household would less likely prefer government hospital as cost of transportation increases than they would if their healthcare service providers were private hospitals. Such little difference in preference has something to do with income level of the household as Oluwatayo (2015) emphasized that household income determines the choice of healthcare giver for most people.

Service Charge

This represented the cost of medical services by different healthcare service providers. Service charge of N1000-N2000 was taken as the reference group in comparison to N3000-N5000 and above N5000 respectively. The result shows that households who are charged N3000-N5000 are about 1.31 times and 1.12 times more likely to choose traditional healthcare providers and private hospital respectively than those that paid N1000-N2000. This difference is statistically significant at $p < 0.05$. Similarly, households that pay N3000-N5000 are more likely to choose government hospital by about 0.78 times than those that pay N1000-N2000 on average, even though the difference is not significant at $p < 0.05$. On the other hand, households who are charge above N5000 were sequentially found to prefer traditional healthcare, private hospital and government hospital by about 0.20 times, 0.12 times and 0.05 times than the reference category. The difference in the choice of healthcare providers between households that pay above N5000 and those that pay N1000-N2000 was found to be insignificant at $p < 0.05$ as it appeared in the table above.

Going by the trend in choice of healthcare provider based on service charge, it can be deduced that as cost of service charge increases overtime, households tend to prefer the services of traditional caregivers, followed by private hospital and government hospital in comparison to self-treatment. The preference of traditional healthcare provider over private hospital due to service cost remains a surprise as expectation favoured private hospital based on other associated

factors such as quality of care, professionalism and others. The most revealing fact about the result is that as service charge increases, the demand for government hospital, private hospital and traditional caregivers tend to decrease among households in Enugu metropolis. This implies that rise in cost of service charge tends to encourage self-medication among households in the area. This result upheld the report by Mwabu, Wangombe and Nganda (2003) that user fees are negatively correlated to the use of health facilities due to the base the fees where increased from the previous fees. Hence, hike in service charge would likely thwart government policies that targeted increased assets to healthcare services in the country, especially among low income group.

Quality of Care

The quality of healthcare services is expected to be one of the major determinants of choice for healthcare providers among households in this study. It was categorized into four with poor quality of care as the base. When the quality of care is considered fair, households were found to indicate preference for traditional healthcare, government hospital and private hospital up to about 0.62 times, 0.28 times and 0.13 times more than when quality of care was found to be poor on average. When the quality of care is good, households are about 0.68 times, 0.15 times and 0.06 times more likely to choose traditional healthcare, private hospital and government hospital respectively than when it is poor. Lastly, when quality of care becomes excellent, households tend to be 1.01 times, 0.96 times and 0.71 times more likely to choose traditional healthcare, government hospital and private hospital than in a situation when same quality of care is poor. Despite conformation of the result to a priori expectation, none of the coefficients of categories of quality of care was significant at $p < 0.05$.

The need for healthy living has been a driving force that propels men to seek best medical attention in every region across generations. This explains why improved quality of care attracts higher service charge as well as more demand from households. Although households shown to be more likely to choose other healthcare providers over self-medication as quality of care improves it remains difficult to explain the non significant difference of various class of care across different healthcare providers. The lack of significant difference in choice of healthcare providers over changes in quality of care could possibly relate to rising poverty level in the

country where households are increasingly less sensitive to changes in qualities of certain commodities due to financial constraints. This study relates to the findings of Ablamba, Alima and Homevoh (2013) who found quality of care among other factors to be significant determinant of seeking prenatal healthcare in urban and rural areas of Togo.

Waiting Time

Waiting times measures the time it takes a patient to receive medical service from chosen healthcare provider. It is categorized into three with waiting time of less than 1 hour as the base category. When effect of other variables are held constant, households were found to be about 1.28 times more likely to choose traditional healthcare if waiting time is 1-3 hours than when it less than 1 hour. This preference for traditional healthcare over self-medication is significant at $p < 0.05$. Moreover, when waiting time is 1-3 hours, households became about 0.81 times and 0.63 times more likely to choose government hospital and private hospital respectively than when waiting time is less than 1 hour. These differences were however not significant at $p < 0.05$. As waiting time goes above 3 hours, the choice of government hospital, private hospital and traditional healthcare among households declined to about 0.31 times, 0.36 times and 0.73 times more compare to when waiting time was less than 1 hour. This difference is also not statistically significant at $p < 0.05$.

Not minding the insignificant difference in waiting time, this result replicates the consistent trend in this study by showing that households are not willing to choose self-medication even in the face of increase in waiting time across different healthcare providers. They still prefer traditional healthcare, government hospital and private hospital to self-medication, even though the marginal preference tends to fall as the waiting time increases by hour. The result simply suggests that households tend to be less mindful of given time spent to receive the services of healthcare providers. Ideally, households were expected to respond negatively to increase in waiting time irrespective of chosen healthcare provider. The fact that there is few healthcare givers compared to demand for the services may help to point out the reason for positive but decreasing coefficients of waiting time in this study. This claim is justified by World Bank (2017) which estimated the number of community health workers per 1000 at 0.128 in 2008 and number of physician per 1000 at 0.395 in 2010. Thus, the result demonstrates a situation where

household had no choice regarding the length of waiting time in hospital due to inadequate health facilities in the country.

Level of Trust

Level of trust has to do with degree of confidence that households have on healthcare providers. It has three categories with 'no trust' as the base category. The result shows that households are about 0.79 times, 0.19 times and 0.03 times more likely to choose traditional healthcare, private hospital and government hospital respectively when they have less trust on their services than when they no trust. Similarly, when households have more trust, they were found to be about 0.43 times, 0.13 times and 0.03 times more likely to choose traditional healthcare, private hospital and government hospital than those who have no trust in the chosen healthcare provider. These differences were however found to be insignificant across different healthcare providers and different levels of trust.

The effect of trust on demand for healthcare provider conformed to a priori expectation in the sense that the coefficients are positive for every improvement in the level of trust. Hence, it is appropriate for those with more trust on healthcare providers to demand more healthcare services than those with no trust. Although level of trust appeared not a significant determinant factor that influences demand for healthcare provider in this study, it was found that households tend to demand more of service of traditional healthcare providers followed by private hospital and lastly, government hospital when the trust level improves over time. The result further shows that the desire for self-medication among households in Enugu metropolis tend to decline as household's trust on services of healthcare providers increase over time.

Health Condition

Health condition portrays the health status of the individuals that seek services of the healthcare providers. This is known to influence the demand and supply of healthcare services since it is commonly believed that those who are sick will not equally demand such services with those who are not sick. The variable is categorized into four with 'not sick' as the base category. Result in Table 5.3 households with sick people were found to be approximately 0.59 times, 0.37 times and 0.05 times more likely to choose private hospital, government hospital and traditional

healthcare providers respectively than those with no sick people. For households with ‘very sick’ individuals, they were sequentially found to prefer private hospital, government hospital and traditional healthcare up to 0.25 times, 0.23 times and 0.19 times than those that are not sick. Similarly, households with critically sick individuals were found to about 12.95 times, 2.31 times and 1 times more likely to choose government hospital, traditional healthcare and private hospital than households with no sick individuals on average. The observed differences in the choice of healthcare providers based on health condition were not statistically significantly different from zero at $p < 0.05$.

The above result is in line with a priori expectation that households with sick persons are more likely to demand more healthcare services than their counterpart with no sick persons. This implied that when effect of other variables are held constant, households with critically sick persons would more likely demand the services of government hospitals, private hospitals and traditional healthcare providers than households with no sick persons. Further insight from the result shows that government hospitals and traditional healthcare providers were mostly preferred to private hospitals by sampled households when they have critically sick members. The trend could be explained in two dimensions. First is the financial expectation which would likely favour the highly subsidized government hospitals over private hospitals, especially when income level of households is low. Second is the religious view of the people that certain health challenges were better taken care of at the traditional health centres, especially when spiritual influences were read into circumstances surrounding such sickness. According to Adeoti and Awoniyi (2014), improved health status often reduces the burden of demand for healthcare services and leads to improved output within the society. The important message of this result remains that households are less likely to settle for self-medication when their members were found to be seriously sick. They rather seek the services of health professionals.

5.3 Level of Utilization of Healthcare Facilities amongst Households Living in Enugu Metropolis of Enugu State

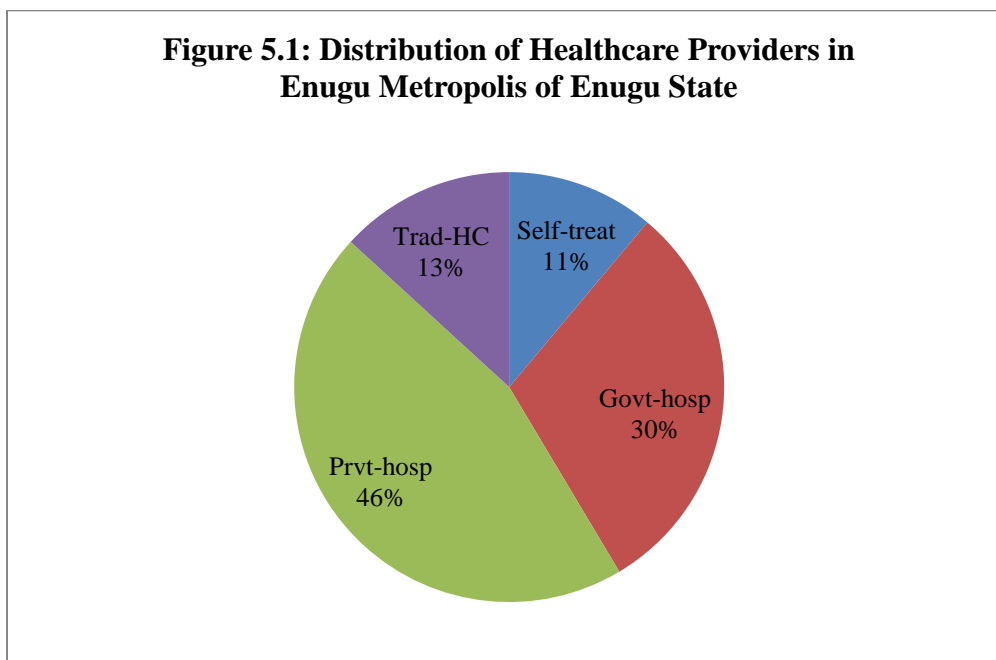
This section analysed the demographic and socioeconomic distribution of households among healthcare providers in the area. It specifically employed descriptive statistic techniques with tables and charts used for the analyses as specified in the methodology.

Table 5.3: Household utilization of healthcare providers (%)

Healthcare provider	Freq.	Percent	Cum.
<i>Self treatment</i>	48	11.11	11.11
<i>Government hospital</i>	131	30.32	41.44
<i>Private hospital</i>	196	45.37	86.81
<i>Traditional healthcare</i>	57	13.19	100
<i>Total</i>	432	100	

Source: Researcher's computation

The result in Table 5.4 shows that greatest proportion of the households patronize private hospital and made up of 45.37% of the sample. This was closely followed by those that patronize government hospital which constituted 30.32%. Only 13.19% and 11.11% patronized traditional healthcare providers and self-medication respectively. This result was represented in the Figure 5.1 below.



5.3.1 Demographic Factors Affecting Level of Utilization of Healthcare Facilities amongst Households

Table 5.4: Age and utilization of healthcare services (%)

Healthcare provider	below 18years	18- 45years	46- 65years	above 66years	Total
<i>Self treatment</i>	7	29	9	3	48
%	1.62	6.71	2.08	0.69	11.11
<i>Government hospital</i>	27	57	39	8	131
%	6.25	13.19	9.03	1.85	30.32
<i>Private hospital</i>	40	87	44	25	196
%	9.26	20.14	10.19	5.79	45.37
<i>Traditional healthcare</i>	16	25	9	7	57
%	3.70	5.79	2.08	1.62	13.19
Total	90	198	101	43	432
%	20.83	45.83	23.38	9.95	100

Source: Researcher's computation

From Table 5.5, 20.83% of the respondents were below 18 years out of which 1.62% preferred self-treatment, 6.25% preferred government hospital, 9.26% chooses private hospital and the last 3.70% chooses traditional healthcare services. This was followed by 45.83% of the respondents who are 18-45 years. Private hospital retains 20.14% of these respondents and 13.19% patronizes government hospital. Only 6.71% and 5.79% of the respondents preferred self-treatment and traditional healthcare respectively. Respondents the fall within the age bracket of 46-65 years made up 23.38% of the sample of the study. Among these were self-treatment 2.08%, government hospital 9.03%, private hospital 10.19% and traditional healthcare 2.08. Lastly, the advanced respondents of above 66 years constituted the remaining 9.95%, where they are further distributed as self-treatment 0.69%, government hospital 1.85%, private hospital 5.79% and traditional healthcare 1.62% respectively. Isolation of self-treatment group shows that people of 18-45 years are most likely to indulge in risk of self-medication more than any other age group in this survey (See Figure 5.2).

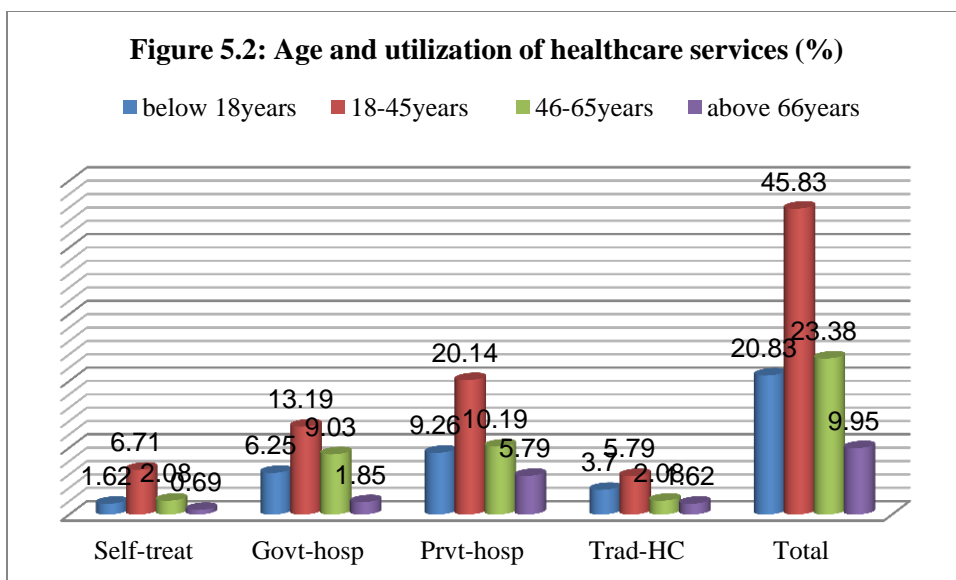


Table 5.5: Sector of residence and utilization of healthcare services (%)

Healthcare provider	suburb	Urban	Slum	Total
<i>Self treatment</i>	10	32	6	48
%	2.31	7.41	1.39	11.11
<i>Government hospital</i>	27	84	20	131
4%	6.25	19.44	4.63	30.32
<i>Private hospital</i>	34	125	37	196
%	7.87	28.94	8.56	45.37
<i>Traditional healthcare</i>	12	32	13	57
%	2.78	7.41	3.01	13.19
Total	83	273	76	432
%	19.21	63.19	17.59	100

Source: Researcher's computation

Based on sector of residence, 19.21% of households were found to reside in suburb area. Out of this figure, 2.31% and 6.25% preferred self-treatment and government hospital, and 7.87% and 2.78% preferred private hospital and traditional healthcare. About 63.19% of the households live in the urban area with distribution of 7.41%, 19.44%, 28.94% and 7.41% for self-treatment, government hospital, private hospital and traditional healthcare respectively. Households that live in slum areas made up 17.59% out of which 1.39% engages in self-treatment, 4.63%

preferred government hospital, 8.56% utilizes private hospital and 3.01% utilizes traditional healthcare services. This result was represented in Figure 5.3 below.

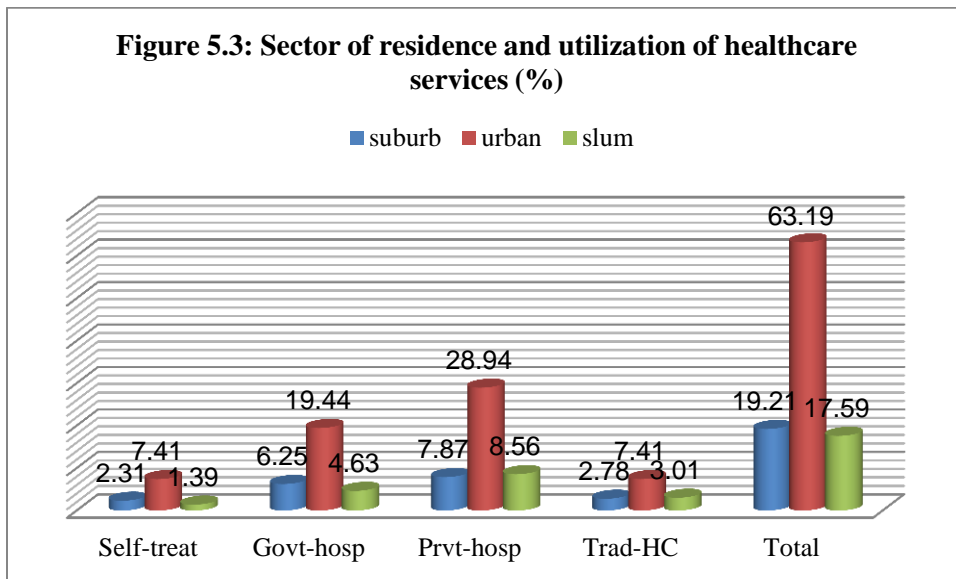


Table 5.6: Household size and utilization of healthcare services (%)

Healthcare provider	2-5 members	6-9 members	above 9 members	Total
<i>Self treatment</i>	23	15	10	48
%	5.32	3.47	2.31	11.11
<i>Government hospital</i>	49	60	22	131
%	11.34	13.89	5.09	30.32
<i>Private hospital</i>	83	82	31	196
%	19.21	18.98	7.18	45.37
<i>Traditional healthcare</i>	12	29	16	57
%	2.78	6.71	3.70	13.19
Total	167	186	79	432
%	38.66	43.06	18.29	100

Source: Researcher's computation

With respect to information on household size and choice healthcare provider in Table 5.7 and Figure 5.4, households with 2-5 members made up 38.66% of the sample. This was further grouped into self-treatment 5.32%, government hospital 11.34%, private hospital 19.21% and 2.78% traditional healthcare. Following this group was households with 6-9 members that made

up 43.06%. In likewise manner, 3.47% preferred self-treatment, 13.89% were for government hospital, 18.98% for private hospital and 6.71% for traditional healthcare. Large households of above 9 members constituted only 18.29% of the respondents. Only 2.31% preferred self-treatment, while 3.70% preferred traditional healthcare. Lastly, while 5.09% chooses government hospital, 7.18% chooses private hospital.

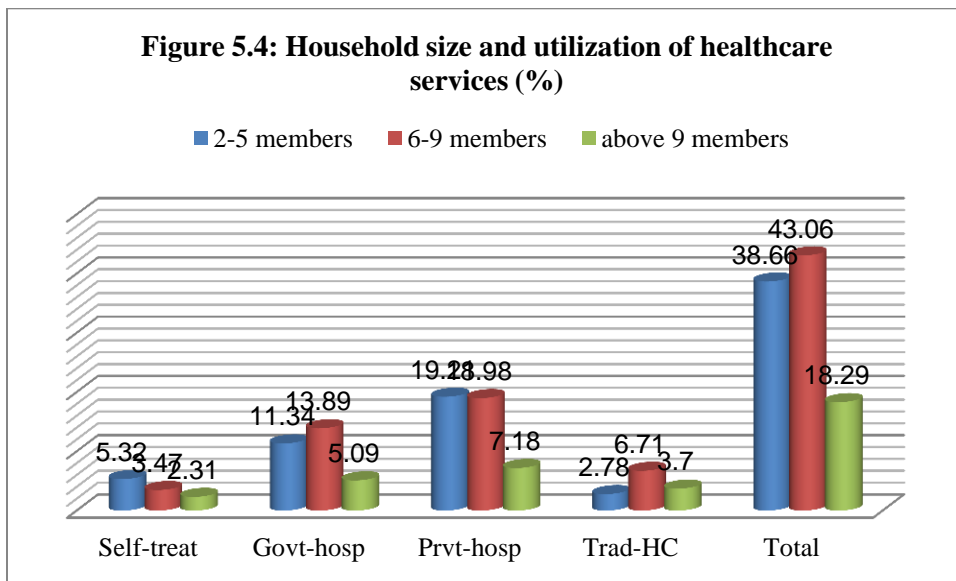


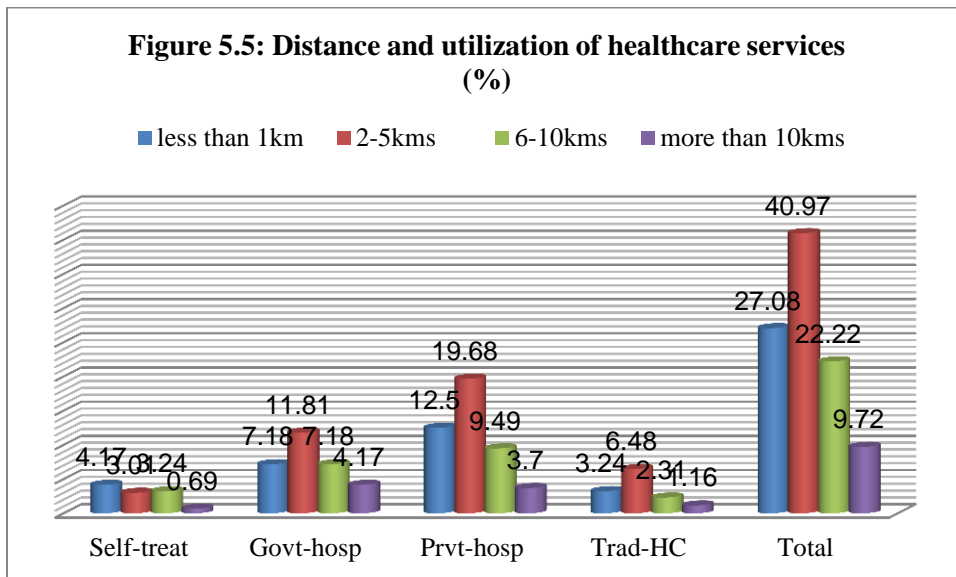
Table 5.7: Distance and utilization of healthcare services (%)

Healthcare provider	less than 1km	2-5kms	6-10kms	more than 10kms	Total
<i>Self treatment</i>	18	13	14	3	48
%	4.17	3.01	3.24	0.69	11.11
<i>Government hospital</i>	31	51	31	18	131
%	7.18	11.81	7.18	4.17	30.32
<i>Private hospital</i>	54	85	41	16	196
%	12.5	19.68	9.49	3.7	45.37
<i>Traditional healthcare</i>	14	28	10	5	57
%	3.24	6.48	2.31	1.16	13.19
Total	117	177	96	42	432
%	27.08	40.97	22.22	9.72	100

Source: Researcher's computation

Distribution of households based on distance to healthcare facilities shows that households residing less than 1 kilometre away made up to 27.08% of the respondents. Out of this

proportion, 4.17% preferred self-treatment, 7.18% goes to government hospital, 12.50% chooses private hospital and 3.24% preferred traditional healthcare providers. Similarly, respondents that lives 2-5 kilometre away from health facilities constituted 40.97% of the sample. These were also made up of 3.01% self-treatment, 11.81% government hospital, 19.68% private hospital and 6.48% traditional healthcare groups. The trend in utilization of health facilities dropped as distance further increased beyond 5 kilometres. Only 22.22% of respondents living 6-10 kilometres away were utilizing health facilities. Further break down shows that 3.24% are for self-treatment, 7.18% for government hospital, 9.49% for private hospital and 2.31% for traditional healthcare. In the same way, households living more than 10 kilometre away represented only 9.79% of the respondents. Among them were self-treatment 0.69%, government hospital 4.17%, private hospital 3.70% and traditional healthcare 1.16% (See Figure 5.5 below).



5.3.2 Socioeconomic Factors Affecting Level of Utilization of Healthcare Facilities amongst Households

Table 5.8: Education level and utilization of healthcare services (%)

Healthcare provider	no formal	primary	secondary	Tertiary	Total
<i>Self treatment</i>	3	14	8	23	48
<i>%</i>	0.69	3.24	1.85	5.32	11.11
<i>Government hospital</i>	22	41	25	43	131
<i>%</i>	5.09	9.49	5.79	9.95	30.32
<i>Private hospital</i>	46	61	38	51	196
<i>%</i>	10.65	14.12	8.80	11.81	45.37
<i>Traditional healthcare</i>	9	29	10	9	57
<i>%</i>	2.08	6.71	2.31	2.08	13.19
<i>Total</i>	80	145	81	126	432
<i>%</i>	18.52	33.56	18.75	29.17	100

Source: Researcher's computation

Educational qualification does not play a specific role in choice of healthcare providers in the study. Respondents with no formal education constituted 18.52% out of which 0.69%, 5.09%, 10.65% and 2.08% preferred self-treatment, government hospital, private hospital and traditional healthcare respectively. Following this group was respondents with primary education. They made up 33.56% with 14.12% and 9.49% settling for private hospital and government hospitals respectively. The remaining 6.71% and 3.24% chooses traditional healthcare and self-treatment. Respondents with secondary school certificate took 18.75% of the surveyed households with only 1.85% and 2.31% choosing self-treatment and traditional healthcare, while 5.79% and 8.80% choosing government hospital and private hospital respectively. For respondents with tertiary education, they made up the remaining 29.17% which was sequentially distributed across self-treatment, government hospital, private hospital and traditional healthcare as 5.32%, 9.95%, 11.81% and 2.08% (See Figure 5.6).

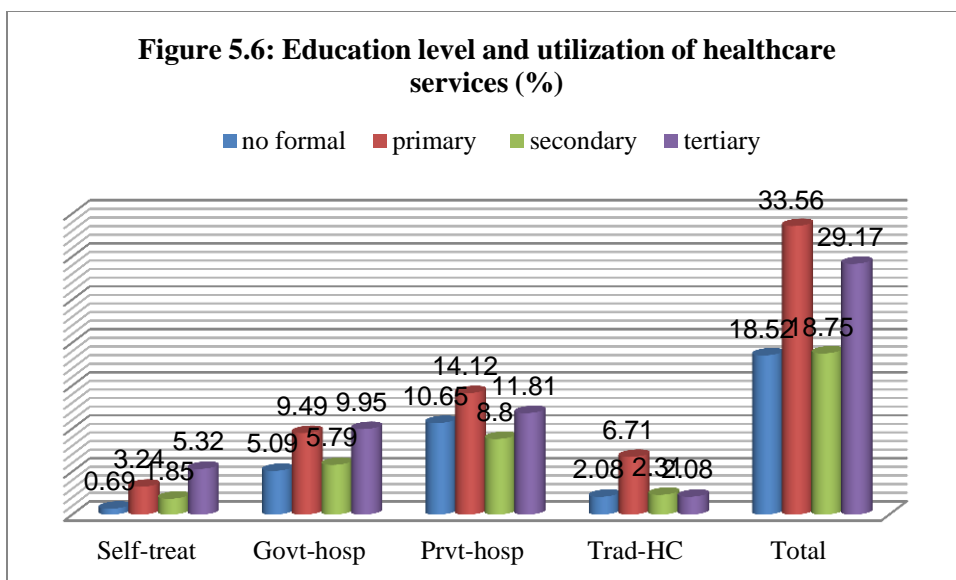


Table 5.9: Income level and utilization of healthcare services (%)

Healthcare provider	N1,000- N50,000	N51,000- N100,000	N101,000- N150,000	above N151,000	Total
<i>Self treatment</i>	18	21	5	4	48
%	4.17	4.86	1.16	0.93	11.11
<i>Government hospital</i>	55	53	19	4	131
%	12.73	12.27	4.40	0.93	30.32
<i>Private hospital</i>	54	91	31	20	196
%	12.5	21.06	7.18	4.63	45.37
<i>Traditional healthcare</i>	10	34	7	6	57
%	2.31	7.87	1.62	1.39	13.19
Total	137	199	62	34	432
%	31.71	46.06	14.35	7.87	100

Source: Researcher's computation

Respondents with monthly income level of N1000-N50000 made up 31.71% of the sample. This group mostly preferred government and private hospital as they share up to 12.73% and 12.50% respectively. The remaining 4.17% and 2.31% preferred self-treatment and traditional healthcare respectively. Next are respondents with monthly income of N51000-N100000. They made up 46.06% of the sample and were distributed across self-treatment 4.86%, government hospital 12.27%, private hospital 21.06% and traditional healthcare 7.87%. The above Table also shows that 14.35% of the respondents earn monthly income of N101000-N150000. About 7.18% and

4.40% of this proportion preferred private hospital and government hospital respectively, while 1.62% and 1.16% of the population preferred traditional healthcare and self-treatment in the same order. Lastly, 7.87% of the sample was filled by respondents with above N151000 monthly income. Among this group were 4.63% for private hospital, 1.39% for government hospital and 0.93% each for traditional healthcare and self-treatment. This result was shown in Figure 5.7 below.

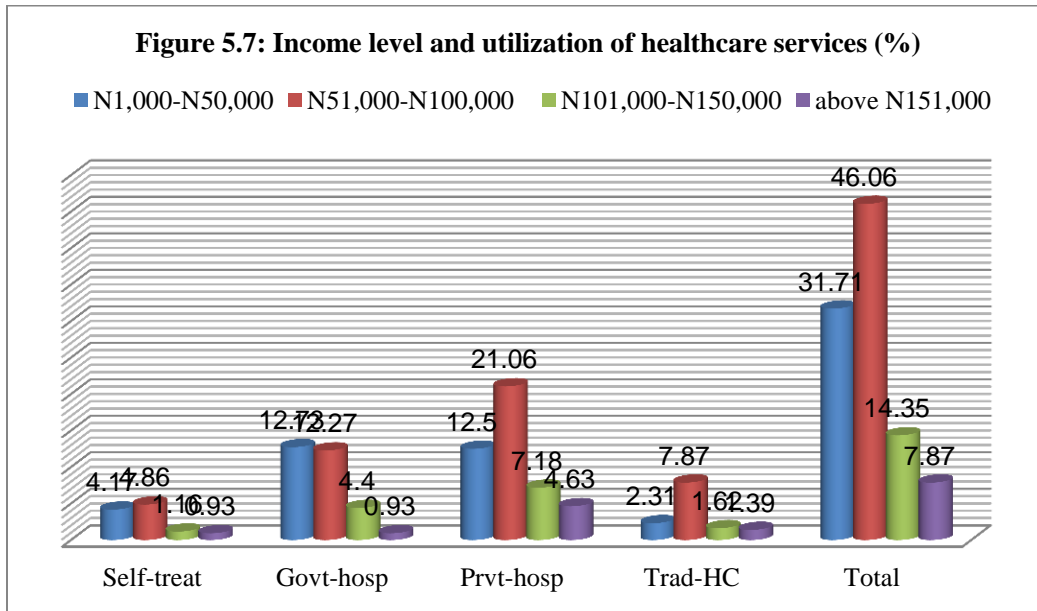
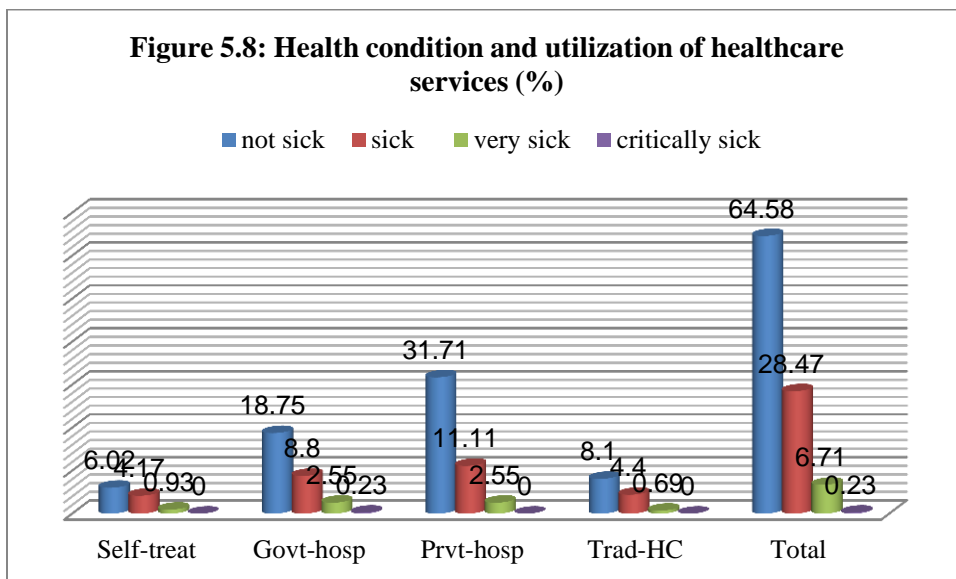


Table 5.10: Health condition and utilization of healthcare services (%)

Healthcare provider	not sick	sick	very sick	critically sick	Total
<i>Self treatment</i>	26	18	4	0	48
%	6.02	4.17	0.93	0	11.11
<i>Government hospital</i>	81	38	11	1	131
%	18.75	8.80	2.55	0.23	30.32
<i>Private hospital</i>	137	48	11	0	196
%	31.71	11.11	2.55	0	45.37
<i>Traditional healthcare</i>	35	19	3	0	57
%	8.10	4.40	0.69	0	13.19
Total	279	123	29	1	432
%	64.58	28.47	6.71	0.23	100

Source: Researcher's computation

Based on health condition of the respondents, Table 5.11 shows that 64.58% of the respondents were not sick. Among them were 31.71% who choose private hospital, 18.75% who choose government hospital, 8.10% who choose traditional hospital and 6.02% who choose self-treatment. Next are 28.47% of the respondents who admitted to be sick at the time of the survey. Exactly 11.11% of them preferred private hospital, 8.80% preferred government hospital, 4.40% choose traditional healthcare and 4.17% preferred self-treatment. Only 6.71% of the respondents were found to be very sick during the study. Among them were 2.55% each who choose government and private hospital respectively. Contrary to this were 0.93% of them who preferred self-treatment and 0.69% that settle for traditional healthcare services. It was also revealed that only one of the respondents was critically sick and represents 0.23% of the sample. The respondents preferred government hospital to other healthcare providers (See Figure 5.8).



5.4 Evaluation of Research Hypotheses

Working hypotheses of the study were evaluated based on regression results obtained from estimated logit model and descriptive statistics as well.

Research hypothesis 1: There are no significant factors influencing demand for health care services amongst households living in Enugu urban area of Enugu State.

The study shows that when comparing households whose healthcare provider is the government hospital to households who have no healthcare provider (Self-treatment households), marital influence of the married respondents and educational level influence of respondents with tertiary education qualification were found to be statistically significantly different from zero at $p < 0.05$ level. Again, when comparing the choice of households whose healthcare provider is private hospitals to households who relied on self-treatment, marital status influence of married respondents, educational level influence of respondents with tertiary qualification and service charge influence of respondents whose cost of treatment range from N3000 to N5000 were found to be significant at $p < 0.05$ level. Lastly, the comparison of households whose healthcare provider is traditional healthcare to households who preferred self-treatment shows that marital status of married respondents, transport cost of respondents who spend between N600 and N1000, service charge of respondents whose cost of treatment range from N3000 to N5000 and waiting time of respondents who spend between 1 hour and 3 hours before receiving medical treatment were all found to be statistically significantly different at $p < 0.05$ level.

On the other hand, the influence of employment status, income level, distance from health facilities, household size, quality of healthcare services, level of trust on healthcare provider and health condition of respondents were unexpectedly not significant in the study.

Research hypothesis 2: The utilization level of health care facilities amongst households living in Enugu urban area of Enugu State is not significant.

The result shows that out of sampled 432 households in Enugu urban of Enugu state, 48 households utilized no healthcare provider. This category was classified as those that engage in self-treatment medication. This implied that only 11.11% of studied households do not utilize

any healthcare provider. It was further shown that 131 households utilized government hospitals in the area, 196 households utilized private hospitals and 57 households utilized traditional healthcare providers. These figures respectively represented 30.32%, 45.37% and 13.19% of the households. Based on the proportion of households that utilizes healthcare facilities versus those that do not utilize, the result shows that 384 households which represent 88.89% utilized healthcare facilities in Eungu urban areas of Enugu State.

5.5 Policy Implication of the Findings

Findings of the study have important policy implications for various institutions, groups and individuals. First, results of the study show that marital status, education level, transportation cost, service charge and waiting time have important policy implication. These implied that both the Enugu State Government through the State Ministry of Health and the Federal Government of Nigeria through the Federal Ministry of Health should consider the location of healthcare facilities in Enugu metropolis due to its uneven distribution which cost some households more than the others in terms of transportation cost. In addition, the cost of medical services appears to be a barrier to access to health facilities especially in the private hospitals and traditional healthcare giver. It is the duty of policy makers to regulate the cost of medical charge of these private practitioners to ensure that citizens are not being exploited in the hands of unsuspecting health investors. Findings of this study therefore should elicit a sort of health policy mix whereby the activities of private health practitioners should be encouraged maintain high quality of health service and charge moderate price. At the same time such policies should be geared towards raising the standards of healthcare delivery system at government hospitals.

For investors in healthcare sector, result of this study availed them the opportunity to observe the patterns of demand for healthcare delivery in the city. They are to take informed decision based on the level of utilization of healthcare in planning of health facilities in Enugu metropolis. One of the major implications of result of this study is on its display on households' response on quality of healthcare services and level of trust on healthcare providers which appeared to be ineffective in driving demand for healthcare services. This implied that investors and regulators alike must catch in on the opportunity to make quality of care count for households who are ever looking for such quality healthcare delivery. This will in turn bring about increased level of trust

among households that receives healthcare services from healthcare providers in the area. Again, the revelation of the study that about 11.11 per cent of households still have no healthcare provider is an opportunity for investors and the government alike. This remains a sizable proportion of the city's residence whose decision for whatsoever reason should not be permitted to hold sway for enormous threat that self-medication poses to the individuals and the society at large. As a result, policies should be targeted on how to encourage investors to invest and at the same time create public awareness on the dangers of self-medication in Enugu and Nigeria.

Lastly the result of the study is instructive to researchers and the households. Researchers will draw insight on needed area for investigation on demand for healthcare provider and delivery system in Nigeria. For instance, basic health education among households is known to improve the chances of maintaining healthy living. More professional investigation on why this known phenomenon should not be obtainable in Nigerian society. Household would be encouraged to participate more on issues that concern their health when they notice that their health matters to the government. In addition, households who live in either suburb or slum areas of the city do not have equal healthcare benefit due to environmental differences. Hence, they would benefit from policies that were formulated to benefit them. The fact that certain adjustments to healthcare service indicators could have either positive or negative impact on public health and economic output would help policy makers to appreciate the effectiveness of any chosen policy instrument in health sector. It will serve as reminder to the government that good policies will translate to better life for the citizenry while the case is the reverse for wrong policies.

CHAPTER SIX

SUMMARY, RECOMMENDATIONS AND CONCLUSION

6.1 Summary of Major Findings

The need for utilization of healthcare services among households in modern society has lately attracted as much attention as the demand for provision of such healthcare facilities. This need was based on health experts' argument that provision of healthcare facilities cannot be considered successful until such facilities were considerably accessed by the community. This is because several hurdles has been associated with utilization of existing health facilities especially in developing economies where illiteracy, poverty, disease, shortage of qualified health personnel, social and political crisis is more prevalent. As a result of the interplay between provision and utilization of healthcare facilities, this study became interested on demand for healthcare service utilization in Enugu metropolis of Enugu State, Nigeria. Specifically, the study intended to ascertain the factors that influences demand for healthcare services by households living in Enugu urban area of Enugu state. It was also intended to ascertain the level of utilization of health care facilities amongst households living in Enugu urban area of Enugu state. In attempt to achieve above specific objectives, a survey data collected by the researcher from the three Local Government Councils that made up Enugu metropolis was employed. It covered 432 observations from households in the city. The data was subjected to both descriptive statistical analysis and multinomial logistic regression analysis using STATA 13 econometric software.

With respect to objective one which seeks to ascertain the factors that influences demand for healthcare services by households living in Enugu urban area of Enugu state, it was found that marital status played important role in the choice of healthcare provider where married respondents were most likely to utilize government and private hospitals and traditional healthcare centres compare to respondents who are divorced/widowed or single. Education level is also another important factor that influences the demand for healthcare services in Enugu metropolis. Respondents who attain tertiary education level mostly prefer government and private hospitals relative to those with secondary, primary and no formal education. Next is

transportation cost where respondents who pay between N600 and N1000 were found to be more likely to choose traditional healthcare providers over those with transport cost of N1100-N1500 and those who pay above N1500. However, utilization of government and private hospitals does not respond to variation in transport cost. Similarly, healthcare service charge was found to determine utilization of healthcare facilities in this study. In this regard, respondents who pay service charge ranging from N3000 to N5000 were more likely to utilize private hospital and traditional healthcare centres than counterparts in the rest category of service charges. Again, service charge does not influence the choice of government hospital among the respondents. The last important factor among determinants of utilization was waiting time at chosen healthcare facility. Respondents who spent between 1 hour and 3 hours were more likely to choose traditional healthcare centres than those who spent above 3 hours in same facility. As it was with previous important determinants, variation in waiting time does not influence respondents' choice of government and private hospitals respectively.

On the contrary to expectations of the study some factors were found to be unimportant in determining the utilization of healthcare facilities in Enugu metropolis. These include employment status of the respondents. It was expected that respondents who were employed would utilize available healthcare facilities more than their unemployed counterparts. This was not the case as observed difference in utilization of healthcare providers was not significant. It was also expected income level and distance from health facilities would play significant role in the level of utilization of healthcare facilities among the respondents. Against this expectation, both observed differences in respondents' level of income and distance from health facilities were not significant in the study. Another group of factors that surprised the researcher is household size (number of people in a given household), quality of healthcare service, level of trust on healthcare provider and health condition of respondents. These variables were at least expected to have significant effect on level of utilization of healthcare facilities in Enugu metropolis due to their role in similar studies in other countries and cities.

Lastly, the effects of some other estimated determinants were also not significant in the study. These include gender (sex) of the respondents, residential location of respondents (sector) of residence) and age of respondents. Outcome of these factors was not much a surprise to the

researcher as the ones in the preceding paragraph due to their inconsistency in most previous studies on this topic in other locations.

6.2 Policy Recommendations

Major findings of this study shows that married people are more likely to prefer government hospitals, private hospital and traditional healthcare compare to single and divorced or widowed people. Again, attainment of tertiary education was found to determine choice of healthcare provider. Other important determiner of choice of healthcare provider and utilization of healthcare services include transport cost, service charge and waiting time. It was however found that sector of residence, employment status, income level, household size, quality of care and trust on healthcare providers does not play significant role on the choice of healthcare providers. Given above findings, the following policies were recommended:

- i. The government should encourage more investment and ensure quality health care delivery is provided to the citizens. This can be achieved through provision of medical equipments to existing hospitals and centres. Again, inspection of existing facilities at health centres should top government priority. The government can easily set up a quality control system whereby certain criteria must be met by medical practitioners to be in operation. This will help to regulate quality of care rendered to the people by healthcare providers.
- ii. Evidence from the study shows that even though the effect of household size demand for healthcare provider appeared to be insignificant, there is the fact that large households tend to demand less of healthcare services than households with less members. This is obviously due to economic reasons. Hence, government should educate the masses on the need to maintain the size of household they can comfortably take care of, especially their basic needs such as healthcare, education, shelter and feeding.
- iii. Lack of effectiveness of certain factors such as distance from health facility, income level and others points to the inadequacy of health delivery and infrastructure facilities in Enugu which undermine existing demand for healthcare utilization. These include physical structures such as buildings and other basic infrastructures like pipe borne water, good access roads, electricity and others within the healthcare environment. Others

include state of the art health technology such as equipments meant specifically for hospital use.

- iv. Part of government investment in the health sector should include training and re-training of medical personnel for quality care delivery in Enugu State. This will in turn help to improve households' trust on healthcare providers in the State

6.3 Limitation of the Study and Recommendation for Further Research

Despite the success of this study in unveiling the factors that influence demand for healthcare providers in Enugu metropolis, and that of level of utilization of health facilities in the State, there exist some constraints and limitations to achievement of stated objectives of the study. These include the rigorous process of primary data from the field work were the research have to repeatedly convince respondents on the need to answer the questioner without concealing information. The researcher equally experienced difficulties in obtaining research warrant from Enugu State Ministry of Health. These were quite challenging due to short time period allocation to completion of this research work by the school authority. Moreover, not quite much work has been done on demand for healthcare utilization in Nigeria. Again, the study was influenced by availability of scarce resources such as funds requirement especially during the field trip. With these in mind the researcher thereby recommends the following areas of study for future interested researchers;

1. Determinants of healthcare utilization in South Eastern Nigeria.
2. Assessment of quality of healthcare delivery system in Nigeria.

6.4 Conclusion

Based on recorded result of the study, the researcher hereby concludes that significant determinants of choice of healthcare providers in Enugu metropolis of Enugu State include marital status of respondents, level of education of respondents, cost of transportation to health facilities, service charge payable by the clients and the waiting time for medical attention of healthcare giver. As a result the government should make adequate provisions for incorporation of these factors in healthcare planning in Enugu metropolis of Enugu State.

On the contrary, the influence of employment status, sector of residence, income level, gender, distance from health facilities, age, household size, quality of healthcare services, level of trust on healthcare providers and health condition of the respondents were not significant determinants of choice of healthcare providers in Enugu metropolis. The study hence concludes that households' indifference on whether to choose government hospital, private hospital or traditional healthcare was mainly due to apparent similarity in the quality of care received from healthcare providers in the city. This equally explains the indifference in respondents' level of trust on those healthcare providers.

With respect to the level of utilization of healthcare providers in Enugu metropolis, the study concludes that private hospitals receive the highest patronage with 45.37% of healthcare seekers paying for their services. The government hospital closely followed with patronage of about 30.32% of the people. Next to these healthcare providers is the traditional healthcare giver who controls about 13.19% of the healthcare market in Enugu metropolis. It is important to note that about 11.11% of population of the city has no healthcare provider. They may possibly rely on self-medication or services of unprofessional healthcare providers in the city. Thus there is need to reduce the proportion of those who engage in self-medication in the city so as to minimize the risk of drug abuse and other health hazards that accompany self-medication for the benefit of the individuals and the wider society.

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APPENDICES

Appendix 1: Research Questionnaire

**DEMAND FOR HEALTH CARE SERVICE UTILIZATION IN ENUGU METROPOLIS
OF ENUGU STATE, NIGERIA**

This information is strictly confidential and will be used for statistical purposes only

SURVEY INSTRUMENT

Name of Interviewer: Code:

Form No: Cluster No:

Date of interview:.....

PART A: GENERAL REMARKS

1. INTERVIEWER’S NOTE

The interview is to be conducted for both households that report sickness and those that do not. The household size is made up of all persons who reside under the same roof for at least 5 days in a week or for at least 15 days in each month and share food from a common source.

2. SCOPE OF INQUIRY AND THE OBJECTIVE

This inquiry is intended to cover households located in the Enugu metropolis vis a vis Enugu North, Enugu South and Enugu East Local Government Areas of Enugu state Nigeria. The main objective of the survey is to gather data that will be used to analyse demand for health care services in Enugu town of Enugu State.

3. CONFIDENTIALITY OF THE INFORMATION

The information as provided in this form will be treated with utmost confidentiality by the researcher. The information will be used for statistical analyses only.

4. COMPLETION AND RETURN OF FORM

Kindly answer all questions by filling the space as provided and ensure that you give back to the interviewer that administered the questionnaire to you.

5. DIFFICULTIES

If you have any difficulty filling this form, please do not hesitate to ask the interviewer that administered the questionnaire to you.

6. UNIT OF MEASUREMENT

In a situation whereby the unit of measurement is different from the one indicated or from the one you know, please state the conversion factor to standard unit of measurement (e.g. kg, km, metres etc).

PART B: QUESTIONS TO RESPONDENTS

1. Question: Interviewer: Ask the head or the acting head of the household or the respondent that have reported sick in the last one year and six months.

Did you seek any treatment? Please tick (√) where appropriate.

Yes	
No	

DETAILS OF HEALTH CARE PROVIDERS AND HOUSEHOLD HEALTHCARE UTILIZATION

Question 2: Which of the following health care providers did you seek treatment from?

Kindly supply the type of health care providers that you visited for treatment. 0 = Self treatment, 1 = government hospital, 2 = private hospital, 3 = traditional healthcare provider.

Type of Healthcare	0	1	2	3
Self Treatment				
Government hospital				
Private Hospital				
Traditional Healthcare				

Question 3: If you did not seek for treatment at all, why did you not? Kindly supply the reason why you did not visited health care providers to seek for treatment. 0 = Did not want to, 1 = Cannot afford, 2 = Distance too much, 3 = Too many people waiting.

Reasons	0	1	2	3
Did not want to				
Cannot Afford				
Distance too much				
Too many people waiting				

Question 4: Sector of Residence

What is the sector of your residence? Please indicate whether you fall under Suburb, Urban or Slum area. Please tick (✓) where appropriate. 0 = Suburb, 1 = Urban, 2 = Slum

Sector of Residence	0	1	2
Suburb			
Urban			
Slum			

Question 5: Sex

Is the acting head/household head a male or female?

Gender/sex household heads: Please tick (✓) where appropriate. 0 = Female, 1 = Male

Sex	0	1
Female		
Male		

Question 6 : Marital Status

Please can you tell me your marital status?

Marital status: Please tick (√) where appropriate. 0 = Single, 1 = Married, 2 = divorced/widowed.

Marital Status	0	1	2
Single			
Married			
Divorced /widowed			

Question 7: Education Level

Please can you tell the highest level of education you have acquired?

Educational level of respondent heads: Please tick (√) where appropriate. 0 = no formal education, 1 = primary level, 2 = secondary level, 3 = tertiary level

Level of Education Acquired	0	1	2	3
No formal Education				
Primary Education				
Secondary Education				
Tertiary Education				

Question 8: Employment Status

What is your employment status?

The employment status of Household heads: please tick (√) where appropriate. 0 = unemployed, 1 = employed

Employment Status	0	1
Unemployed		
Employed		

Question 9: Wealth Index

What is your average monthly income level ?

Income as a proxy for wealth index: Please tick (✓) where appropriate. 0 = ₦1000 – ₦50,000, 1 = ₦51,000 -100,000, 2 = ₦101,000 - ₦150,000, 3 = ₦151,000 and above

Wealth index	0	1	2	3
₦1000 - ₦ 50,000				
₦51,000 - ₦100,000				
₦101,000 - ₦150,000				
₦151,000 and above				

Question 10: Distance

What is the approximate distance of available health provider /hospital from your home?

Distance of available health provider/ Hospital from Home (in Km):

Please tick (✓) where appropriate. 0 = less than 1km, 1 = 2-5 kms, 2 = 6-10kms, 3 = 11kms and above.

Available health provider/hospital from home	0	1	2	3
less than 1km				
2-5 kms				
6-10kms				
11kms and above				

Question 11: Age

Age in years of the respondent. Please tick (✓) where appropriate. 0 = Below 18 years, 1 = 18-45years, 2 = 46-65years, 3 = Above 66 years

Age	0	1	2	3
Below 18 years				
18-45years				
46-65years				
Above 66 years				

Question 12: Household Size.

What is the size of your family according to number of persons?

Size or number of household members. 0 = 2-5 members, 1 = 6-9 members, 2 = 10 and above.

Hhsize	0	1	2
2-5 members			
6-9 members			
10 and above			

Question 13: Transportation Cost

How much did you spend on transport to access the nearest health care provider?

Tick (√) where appropriate. 0 = less than ₦500, 1 = ₦ 600-~~₦1000~~, 2 = ~~₦1100-₦1500~~, 3 = ₦1600 and above.

Transportation cost (in ₦)	0	1	2	3
Less than ₦500				
₦600-₦1000				
₦1100-₦1500				
₦1600 and above				

Question 14: User Fee

How much did you spend in the hospital to your treatment?

Cost or price of treatment in the visited health facility proxied by user fee. This includes consultation fee, card fee and cost of drugs (in ₦): Please tick (√) where appropriate. 0 = ~~₦1000 - ₦2000~~, 1 = ~~₦3000-5000~~, 2= ~~₦6000~~ and above.

Total cost of card (in ₦)	0	1	2
₦1000-₦2000			
₦3000-₦5000			
₦6000 and above			

Question 15: Quality of Care.

Quality of care obtained from health facility. This constitute availability of drugs, health inputs, trained personnels etc. Please mark where appropriate. 0 = Bad, 1 = Fair, 2 = Good, 3 = Excellent.

Quality of Health Care	0	1	2	3
Bad				
Fair				
Good				
Excellent				

Question 16: Waiting Time

Time spent at the health facility waiting to be treated. Please tick (✓) where appropriate. 0 = less than 1 hour, 1 = between 2-3hours, 2 = 4hours and above.

Time Spent (in Hours)	0	1	2
Less than 1 hour			
Between 2-3hours			
4 hours and above			

Question 17: Trust index

The degree to which respondents trusted health care providers. Please tick (✓) where appropriate. 0 = No trust, 1 = Less trust, 2 = more trust

Trust index	0	1	2
No trust			
Less trust			
More trust			

Question 18: Health Condition.

What is your health condition?

This is the description of health condition of the respondent. Please tick (√) where appropriate. 0

= Not sick, 1 = sick, 2 = Very sick, 3 = Critically sick.

Health condition	0	1	2	3
Not sick				
Sick				
Very sick				
Critically sick				

Appendix 2: Application for Ethical Clearance

Economics Department,
University of Nigeria,
Nsukka.

31st January, 2017

The Permanent Secretary,
Ministry of Health,
Enugu.

Sir,

Application for Ethical Clearance

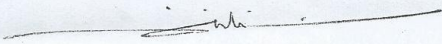
May I apply for the issuance of Ethical Clearance to enable me to distribute questionnaire within the Enugu Metropolis of Enugu State. The metropolis which consists of the three Local Government of Enugu North, Enugu South and Enugu East falls within the enumerated area that I am studying in my research in Masters Degree Programme.

I attached a copy of Introduction from my Head of Department and a copy of my Questionnaire.

I am anticipating receiving your kind co-operation in this regard.

Kindly accept the assurances of my esteemed regards.

Yours faithfully,


Uche Chimobi J.
MSc Student.

Appendix 3: Ethical Clearance

ENUGU STATE MINISTRY OF HEALTH ETHICAL COMMITTEE ON RESEARCH PROJECTS



MH/MSD/EC/0195

Ref No:.....

12th October, 2017

Date:.....

The Researcher,
Uche Chimobi Johnfred
Economic Department,
University of Nigeria,
Nsukka.

DEMAND FOR HEALTH CARE SERVICES UTILIZATION IN ENUGU METROPOLIS

I refer to your request for permission to carry out a study/research on the above health issue and to inform you that approval has been granted to you.

Ethical Guideline:

1. You are to keep to the principles of informed consent by obtaining a signed/thumb printed informed consent of subjects, parents/legally accepted representative.
2. You are to deposit two (2) copies of the result of your study to the ethical committee of the State Ministry of Health.

Dr. E.U Onah
Chairman, Ethical Committee on Research



Appendix 4: Multinomial Logistic Regression Result

Iteration 0: log likelihood = -532.12696
 Iteration 1: log likelihood = -476.80799
 Iteration 2: log likelihood = -472.16457
 Iteration 3: log likelihood = -472.11462
 Iteration 4: log likelihood = -472.10784
 Iteration 5: log likelihood = -472.10666
 Iteration 6: log likelihood = -472.10639
 Iteration 7: log likelihood = -472.10632
 Iteration 8: log likelihood = -472.10631

Multinomial logistic regression	Number of obs	=	432
	LR chi2(105)	=	120.04
	Prob > chi2	=	0.1497
Log likelihood = -472.10631	Pseudo R2	=	0.1128

hcoprovider	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
self_treatment	(base outcome)					
government_hospital						
sex	-.3128815	.4109652	-0.76	0.446	-1.118359	.4925955
employstatus	.062409	.4276039	0.15	0.884	-.7756793	.9004973
sector1	.4711211	.4745298	0.99	0.321	-.4589402	1.401182
sector2	.4238961	.5429516	0.78	0.435	-.6402696	1.488062
maristatus1	.8552027	.4349016	1.97	0.049	.0028113	1.707594
maristatus2	.2353162	.6614422	0.36	0.722	-1.061087	1.531719
educlevel1	1.14922	.6136746	1.87	0.061	-2.352	.0535602
educlevel2	.1595208	.7427513	0.21	0.830	-1.615287	1.296245
educlevel3	1.469936	.6131105	2.40	0.017	-2.671611	2.268267
incomelev1	.2220649	.4976809	0.45	0.655	-1.197502	1.153378
incomelev2	.2832924	.5686227	0.50	0.618	-.8311876	1.397772
incomelev3	.2012817	.6183446	0.33	0.745	-1.010652	1.413215
distancel	.6269858	.5013295	1.25	0.211	-.355602	1.609574
distance2	-.0182026	.533629	-0.03	0.973	-1.064096	1.027691
distance3	1.205759	.7954715	1.52	0.130	-.3533364	2.764854
age1	-.3212898	.5665922	-0.57	0.571	-1.43179	.7892105
age2	.290008	.6069088	0.48	0.633	-.8995114	1.479527
age3	-.3157087	.6447521	-0.49	0.624	-1.5794	.9479822
hhsizel	.3021219	.4363546	0.69	0.489	-.5531175	1.157361
hhsizel2	-.1673252	.5674721	-0.29	0.768	-1.27955	.9448997
transcost1	.1552504	.4718075	0.33	0.742	-.7694754	1.079976
transcost2	-.5280909	.5999885	-0.88	0.379	-1.704047	.6478649
transcost3	-.4740596	.8883904	-0.53	0.594	-2.215273	1.267154
userfee1	.7807968	.5016686	1.56	0.120	-.2024557	1.764049
userfee2	.0490835	.4502101	0.11	0.913	-.833312	.931479
qualhcare1	.2816136	.5409579	0.52	0.603	-.7786445	1.341872
qualhcare2	.0602055	.5620126	0.11	0.915	-1.041319	1.16173
qualhcare3	.9632106	.8489108	1.13	0.257	-.700624	2.627045
waittime1	.8117459	.4439835	1.83	0.068	-.0584457	1.681938
waittime2	.3067347	.525439	0.58	0.559	-.7231069	1.336576
trustindex1	.0284339	.6752967	0.04	0.966	-1.351991	1.295123
trustindex2	.0334785	.6558156	0.05	0.959	-1.251896	1.318853
healthcond1	.365184	.409283	0.89	0.372	-1.167364	.4369959
healthcond2	.2330346	.6974028	0.33	0.738	-1.13385	1.599919
healthcond3	2.95065	1650.433	0.01	0.994	-3.221839	3.247374
_cons	.2049386	.9520956	0.22	0.830	-1.661135	2.071012
private_hospital						
sex	-.2112845	.3991624	-0.53	0.597	-.9936283	.5710594
employstatus	.0861458	.4078223	0.21	0.833	-.8854629	.7131713
sector1	.4138463	.4508975	0.92	0.359	-.4698965	1.297589
sector2	.3331967	.517399	0.64	0.520	-.6808866	1.34728
maristatus1	.8604353	.4203012	2.05	0.041	.0366601	1.68421
maristatus2	1.074112	.6125681	1.75	0.080	-.1264989	2.274724
educlevel1	.775556	.5950391	1.30	0.192	-1.941811	.3906992
educlevel2	.2489982	.7263475	0.34	0.732	-1.174617	1.672613
educlevel3	1.260678	.5971298	2.11	0.035	-2.431031	-.0903254

incomelev1		.2288181	.4814166	0.48	0.635	-.714741	1.172377
incomelev2		.5584058	.5554375	1.01	0.315	-.5302317	1.647043
incomelev3		.7930817	.5961232	1.33	0.183	-.3752983	1.961462
distance1		.5739846	.4774947	1.20	0.229	-.3618879	1.509857
distance2		-.4656939	.5167798	-0.90	0.368	-1.478564	.5471759
distance3		-.1597165	.7889645	-0.20	0.840	-1.386626	1.706059
age1		-.0878031	.5464671	-0.16	0.872	-1.158859	.9832528
age2		.1039684	.5936906	0.18	0.861	-1.059644	1.267581
age3		.0548212	.6108226	0.09	0.928	-1.142369	1.252012
hhsizel		.1132254	.4221154	0.27	0.789	-.7141057	.9405565
hhsizel		-.3437307	.539428	-0.64	0.524	-1.40099	.7135288
transcost1		.4956159	.4558944	1.09	0.277	-.3979206	1.389153
transcost2		-.3991285	.5755628	-0.69	0.488	-1.527211	.7289538
transcost3		.3927726	.7984714	0.49	0.623	-1.172203	1.957748
userfee1		1.121381	.4847753	2.31	0.021	.1712386	2.071523
userfee2		.1241715	.4362312	0.28	0.776	-.7308259	.979169
qualhcare1		.1337525	.5152463	0.26	0.795	-1.143617	.8761117
qualhcare2		.1511426	.5327206	0.28	0.777	-1.195256	.8929705
qualhcare3		.7113346	.8170334	0.87	0.384	-.8900214	2.312691
waittime1		.6273208	.4297349	1.46	0.144	-1.2149441	1.469586
waittime2		.3649934	.4975217	0.73	0.463	-.6101312	1.340118
trustindex1		.1894813	.6554035	0.29	0.773	-1.095086	1.474048
trustindex2		.2306453	.6385817	0.20	0.838	-1.120952	1.382242
healthcond1		.588113	.3943064	1.49	0.136	-1.360939	.1847132
healthcond2		.6492375	.6945371	0.36	0.720	-1.610505	1.11203
healthcond3		.9984484	1841.47	0.00	1.000	-3.210214	3.601217
_cons		.186012	.929575	0.20	0.841	-1.635922	2.007946

traditional_healthcare							
sex		-.3426221	.4935127	-0.69	0.488	-1.309889	.6246449
employstatus		.2118829	.5157385	0.41	0.681	-.798946	1.222712
sector1		.2363474	.5681571	0.42	0.677	-.8772201	1.349915
sector2		.4323545	.6242283	0.69	0.489	-.7911104	1.655819
maristatus1		1.075046	.5266554	2.04	0.041	.04282	2.107271
maristatus2		.1219645	.7909916	0.15	0.877	-1.42835	1.67228
educlevel1		.6073853	.7308535	0.83	0.406	-2.039832	.8250613
educlevel2		.7366952	.8533148	0.86	0.388	-.935771	2.409161
educlevel3		.6559813	.7673885	0.85	0.393	-2.160035	.8480726
incomelev1		.4820077	.6126437	0.79	0.431	-.7187519	1.682767
incomelev2		.2629132	.7233395	0.36	0.716	-1.154806	1.680632
incomelev3		.8102361	.7430343	1.09	0.276	-.6460844	2.266557
distance1		.4529395	.5805674	0.78	0.435	-.6849517	1.590831
distance2		-.7852079	.6736041	-1.17	0.244	-2.105448	.5350318
distance3		-.0745265	.948945	-0.08	0.937	-1.934425	1.785372
age1		-.0613219	.6540912	-0.09	0.925	-1.343317	1.220673
age2		-.2807336	.7231719	-0.39	0.698	-1.698125	1.136657
age3		.4883336	.7310241	0.67	0.504	-.9444473	1.921114
hhsizel		.8487389	.5408273	1.57	0.117	-2.112632	1.908741
hhsizel		.9136253	.6558529	1.39	0.164	-.3718228	2.199073
transcost1		1.122126	.5701176	1.97	0.049	.0047165	2.239536
transcost2		.7728253	.6864512	1.13	0.260	-.5725943	2.118245
transcost3		1.371257	.9961952	1.38	0.169	-.5812493	3.323764
userfeel		1.306208	.593792	2.20	0.028	.1423969	2.470019
userfee2		.1977689	.5511515	0.36	0.720	-.8824682	1.278006
qualhcare1		.6246329	.6153228	1.02	0.310	-1.830644	.5813777
qualhcare2		.6774686	.638235	1.06	0.288	-1.928386	.573449
qualhcare3		1.012257	1.136476	0.89	0.373	-3.239709	1.215195
waittime1		1.284233	.5516274	2.33	0.020	.2030632	2.365403
waittime2		.7288687	.6385236	1.14	0.254	-.5226145	1.980352
trustindex1		.3898519	.7390483	1.07	0.285	-2.23836	.6586562
trustindex2		.4278752	.7019284	0.61	0.542	-1.80363	.9478792
healthcond1		.0537388	.4789516	0.11	0.911	-.9924668	.8849891
healthcond2		.1912161	.9094968	0.21	0.834	-1.973691	1.591471
healthcond3		2.311881	2240.036	0.00	0.999	-4.392702	4.388078
_cons		-2.148922	1.18546	-1.81	0.070	-4.47238	.174536
